POPULAR

SPECIAL CONTEST ISSUE

PHOTOGRAPHY

DECEMBER 1950

50 CENTS
In Canada 60c

Featuring
PRIZE-WINNING
PHOTOGRAPHS
OF OUR 1950
PICTURE CONTEST
in Color and Gravure

A Prize Winner
by L. WILLINGER

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Bolex mas gift shopper!

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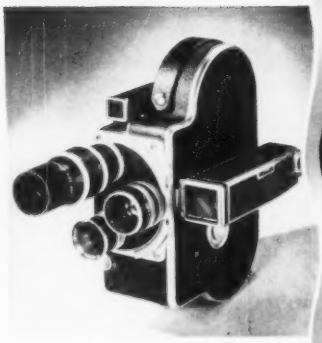

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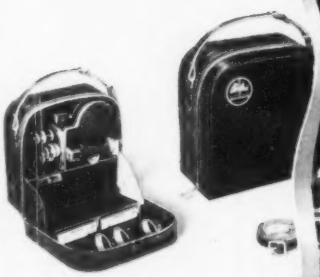

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L-8 HIM

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POPULAR
PHOTOGRAPHY

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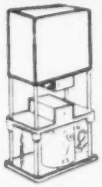

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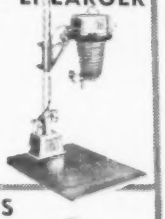

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LETTERS TO THE EDITOR

Susie's Fan Mail

Dear Sir:

In looking through the September issue of POPULAR PHOTOGRAPHY I could not help but note the charming picture of little Susie by John Randolph on page 58. She has become quite a favorite here—the fellows in the 195th Band have chosen Susie as our pin-up.

Cpl. William O. Smith
A.P.O. 334, % Postmaster
San Francisco, Calif.

Dear Sir:

We are interested in the color picture of Susie . . . We think it is quite appropriate for a wall hanging for the Hospital. With proper framing to equal the charm of the subject, we would be proud to have Susie as a permanent fixture here.

R. M. Porter, Administrator
The Children's Hospital
Columbus, Ohio

• Congratulations are due to Susan Hammarstrom, who at the age of two is one of our youngest pin-up girls, and to John Ran-

dolph, the photographer. The picture was not made without some difficulties. Susie resisted posing, and kept drinking the orange juice—which necessitated wiping off an orange "mustache" and refilling the glass at regular intervals. We regret that additional views of the charming picture are not available for framing.—Ed.

More Power for Flash

Dear Sir:

Is there a connector circuit for a flashgun that will give additional battery life?

Charles H. Rivers, ET2
% Fleet Post Office
New York, N. Y.

• See page 120 for an article on how to make a battery-capacitor flash outfit. In addition to prolonging battery life, it also provides more power for flash in a compact unit that requires little space.—Ed.

John Bright's Dogs

Dear Sir:

I have not gotten around to thanking you for the article on dogs in the July issue of POPULAR PHOTOGRAPHY. I believe you have the best color reproduction of any magazine I have come in contact with. This article helped me get a contract with a calendar company to do custom dog shots, one for each month.

John Bright
Ohio University
Athens, Ohio

• Readers will remember John Bright's fine color pictures of his dog, Mickey, and the story of how they were taken. We are always glad to see young photographers get ahead, and here it will be a standing show for 19-year-old John Bright.—Ed.

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New Model. Amazing feather-weight subminiature, less than 2 ounces and measuring just a trifle more than 1" in width and 3" in length! Made to the standards of the finest quality watches, and incorporating features which make possible the most versatile of photographic assignments. Check these points:

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- 2 built-in filters, which clear lens automatically upon closing of camera.
- Designed for automatic film loading, with economical factory-packed cartridges of 50 exposures for brilliant black and white; and 24 exposures for breath-taking color.
- Remember the Minox III, alone, includes ALL these features. When purchased from us, it is guaranteed both by Minox, Inc. (headquarters in New York) and by Dowling's Fifth Avenue. Don't confuse with used and superseded model Minox. Insist on the genuine Minox III—order from Dowling's Fifth Avenue TODAY. Price . . . complete with leather everready carrying case and chain . . . only $117.50 Cash or $11.75 Down.

A precision companion-piece to the fine Minox Camera. Enlargements, with use of the base, from 2¼" x 3¼" to 5" x 7". Also swings 180 for larger sizes. Easy film insertion, automatic self-locking head and rheostat control for regulating focus with various negative densities. The ideal instrument for the Minox devotee who experiences the big thrill from doing his own "blow-ups." Complete with sharp-defining F3.5 lens . . . $147.50 Cash or $14.75 Down.

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New Compur Rapid Synchronized Flash Model! **Brand New** and Factory Packed. Coated Mirror. Rolleiskin Knobs. Scale in Feet, and all latest features! Incl. Snap-It Case. With Ctd. Tessar F2.8 **$325. Cash or $32.50 Down.** With Ctd. Tessar F3.5 **$275. Cash or $27.50 Down.** Ctd. Xenar **$235. Cash or $23.50 Down.**

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FOUR PAGES CRAMMED WITH UNBEATABLE VALUES

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3-section metal stand extends to 6 feet. Sturdy, braced legs with rubber tips. Stand telescopes compactly to only 2½ feet. Positive locking at any desired height. 22" crossbar. Can also be used to hold screen, backgrounds. Two span-aluminum 10" reflectors (for ☍1 or 2 photofloods), complete with sockets, switches, 6' cords, ball-socket swivel joints, rubber-jawed spring clamps. Can be used on crossbar or furniture. Complete outfit $5.95.

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including bulb

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THE BRITELITE FITS ATLAS BOOM

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Electronic Flash $29.95

plus f.e.t.

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Including Batteries

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Serious photographers will buy the Newschief at a second look!

Shipping Weight 3 lbs.

Adapter for midget bulbs, with ejector 98c.

ROLLEI (any recent model): SOLENOID INSTALLATION $20.00

LEICA, CONTAX III, III: CURTAIN CONTACT INSTALLATION $20.00

Send camera to Installation Department at Long Island City. Allow $1.00 for shipping and insurance (unless you prefer C.O.D. shipment). Synchronization fully guaranteed to the highest speeds.

The above offers are valid only, if a Newschief Gun is ordered at the same time. (Your total cost will be $28.95 plus $1.00 for what is easily a $60.00 value!)

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For the first time since the introduction of the flash unit, a really revolutionary accessory to improve flash pictures is available. No longer need you worry about flat front lighting—you can now achieve with flash units as you would with two photofloud bulbs! You can illuminate entire groups, large rooms more evenly, you can double your light output, use smaller openings for more depth of field.

Spiratone offers four models, for use with ALL kinds of guns:

Model A—works with any gun with standard extension outlets.

Model B—works with any gun without extension outlets, using standard screw-base bulbs (such as Press 40, GE 11, etc.)

Model C—works with any gun without extension outlets, using screw-base bulbs and acts as a converter for bayonet base bulbs.

Model D—works with any gun without extension outlets, having standard bayonet base.

Every Spiratone Extension Flash comes equipped with an adjustable reflector (to focus light rays on subject) and a mount of aluminum so you can hold your flash in the right position.

Shipping Weight 3 lbs.

Midget bulb adapter with ejector, for your flashgun or extension 98c.

THREE UNIT

REFLECTOR OUTFIT $4.98

Two aluminum 10" reflectors for ☍1 or ☍2 bulbs, one bullet reflector for spot effects, all three complete with swivel joint, switch, socket, clamp and cord—at a fraction of their usual cost. Two ☍2, one ☍1 photoflood bulbs 96c extra.

Shipping Weight 5½ lbs.

8MM TELEPHOTO—WIDEANGLE SET $14.95

The biggest bargain in lenses ever offered! Yes, you get BOTH, the telephoto and the wideangle lens, for your 8mm movie camera at the unprecedented low price of $14.95—a tiny fraction of the regular price at which thousands were (and are still being) sold. Made by one of the best known manufacturers in the auxiliary lens field, these lenses are available for all Revere, Keystone, Delur, Franklin, Universal and many B&H cameras.

The telephoto quadruples the size of the subject on your film, cuts effective distance right into half. The wideangle covers more than twice the area your normal lens does! Both lenses slip over or screw into your present lens, are instantly removable. Don't miss this unusual opportunity to widen the scope of your movie camera. State what camera and lens you have when ordering.

Save 50% on

8MM PROJECTOR WIDEANGLE LENS $4.98

16MM MODEL $6.49

Spiratone now offers you the original "Projex" projector wideangle auxiliary lens at half price. "Projex" is a must for projection in small rooms or wherever an extra large screen image is desired. "Projex" slips on and off your regular projector lens instantly.

"Projex Jr." ($4.98): fits all 8mm projectors—Revere, Kodak, Keystone, Delur, etc.—doubles projected screen image at any given distance.

"Projex Sr." ($6.48): quadruples image projected by your 8mm or 16mm projector, fits all 8mm and 16mm projectors.

Take advantage of the big saving now!

"Projex" lenses are made by a well-known manufacturer of expensive movie projection lenses; thousands were bought at our regular prices of $9.95 and $12.95—*Be sure to state what projector you have when ordering.*

SAVE 50% ON HCE

FADETTE $4.49

Get that extra feature for which many movie fans paid $30.00 and more extra on their camera! The HCE Fadette not only makes perfect fade-ins and fadeouts at the push of a plunger (yes, it's that simple), but makes possible, with the use of masks (supplied), many different shapes of fades! It also acts as an efficient lensshade and filterholder (which alone is worth $2.00). Don't miss this buy at our $4.49 saving! Fits all 8mm and 16mm movie cameras—state camera, lens you have.

Save up to 75% on Famous Make

METAL REELS AND CANS

All of them first quality, most of them brand new, some surplus. Made by B&H, Goldberg, Compco and others.

SETS OF REELS AND CANS

8mm 200 ft 8 for $2.98		16mm 400 ft 4 for $2.98	
8mm 300 ft 5 for 2.98		16mm 800 ft 2 for 2.98	
8mm 400 ft 3 for 2.98		16mm 1200 ft 2 for 4.98	
		16mm 1600 ft 2 for 5.98	

Shipping Weight per package, appr. 7 lbs.

Adjustable 200 foot, 300 foot, 400 foot

8MM REELCHEST $4.19

with reels and cans

The best value in reelchests. Front drop lid for easy accessability. Accommodates 12 reels and cans, any size. Sturdily constructed, finished in rich silver hammerloid. Complete with your choice of four 200 foot, three 300 foot or two 400 foot reels and cans.

Shipping Weight 6 lbs.

8mm—200 model, accommodates 12 8mm 200 foot reels and cans; complete with 4 200 foot reels and cans **$3.95**

16mm—400 model, holds 12 400 foot reels and cans; complete with 2 400 foot reels and cans **$4.95**

HARD TO BELIEVE!

ACTION EDITING VIEWER $13.95

SPECIFY 8MM OR 16MM

It's true! For half the cost of even the lowest-priced action editing viewer, Spiratone offers you this revolutionary new movie accessory, by special exclusive arrangements with the English manufacturer. The housing is an attractive aluminum casting. The six-sided prism, synchronized to the film rollers by hidden gears, assures perfect flicker-less viewing of your movies under the plano-convex lens. A standard 15-watt bulb supplies ample illumination for viewing in broad daylight.

Shipping Weight 3 lbs.

ACTION EDITING OUTFIT, consisting of Action Editing Viewer, Mansfield Jr. splicer and pair of rewinds, all ready for simple mounting on board (not supplied) **$19.95**

DELUXE ACTION EDITING OUTFIT, consisting of Action Editing Viewer, Automatic Splicer, pair of deluxe rewinds with brakes, all ready for simple mounting on board (not supplied) **$25.95**

COMPLETE DELUXE

8mm Editing Outfit $16.95

The ingenious new hinged editing viewer projects a bright, clear image onto the viewing screen! The fine deluxe rewinds, with brakes, accommodate any size reel. An easy-to-use splicer, complete with scraper and glue—everything mounted on a neat metal base—makes this outfit your ideal choice of an editor: AND ALL THIS FOR LESS THAN THE COST OF SIMILAR VIEWERS ALONE! FREE with DeLuxe editor: Eight ready-made titles, worth $2.00.

Shipping Weight 6 lbs.

SUPER DELUXE EDITING OUTFIT (illustrated), same as above, but with automatic splicer, four titles worth $1.00	$18.95
8MM PROJECTION EDITING VIEWER ALONE	7.95
8MM PROJECTION EDITING VIEWER, and all metal base	9.95
DELUXE REWINDS with brakes (set of two), Mansfield Jr. Splicer, metal base	8.95
DELUXE REWINDS with brakes (set of two), automatic splicer, metal base	13.49
PAIR OF DELUXE REWINDS ALONE, with brakes	4.95
AUTOMATIC SPLICER, alone	6.95

ECONOMY EDITOR $5.95

MODEL A

A simple, yet complete editing outfit, to suit the most limited movie budget. The smartly designed non-electric viewer shows a clear, magnified image of both 8mm and 16mm films. The novel rewinding facilities accommodate any size reel—up to 1600 feet. The wooden board has suction rubber tips and provision for two bottles. The Economy Editor is equipped with the Mansfield Junior splicer.

ECONOMY EDITOR, Model B, same as model A, but with automatic splicer **$9.95**

Shipping Weight 6 lbs.

CINE-TILTLER $5.95

With Six Ready-made Titles

Titles add so much to your movies! And titles you make yourself, when properly spliced in position, will add action, provide continuity. In short, make your home movies a "production". And making titles is so easy! You'll wonder how you could ever "dare" show movies without titles.

The Cine-Titler is built to last a lifetime. It can be used with every 8mm and 16mm camera, thanks to its wide adjustability. A special auxiliary lens provides exact focus for your camera. You can photograph titles of your own design on 5x4 cards, picture postcards, 4x5 stills; you can even shoot animated titles—an instruction booklet accompanies every titler.

To get right size free ready-made titles (worth $1.50), specify 8mm or 16mm.

Shipping Weight 4 lbs.

2x2 ALL METAL SLIDEFILE $1.98

2 for $3.80 4 for $7.40

Accommodates 300 redimounts or 150 glass-slides. Slots prevent rattling. Index. Clamp lock and handle.

Shipping Weight 5½ lbs. each.

Announcing the New Spiratone

2x2 SLIDE PROJECTOR $9.95

A sensational value! 100 watt bulb, dual slide carrier, double condensing system, two-element lens.

DELUXE MODEL has 200 watt illumination, blower-cooled, carrying case **$19.90**

OUTFIT A contains 100 watt projector, 2x2 slidefile, beaded tripod screen **$15.95**

OUTFIT B contains 200 watt Deluxe model, blower-cooled, with case, and crystal-beaded tripod screen **$25.95**

FREE with projector or any of above outfits: See of twenty full color bird slides, worth $5.00.

Projector Blower Base $6.95

for all slide projectors

Again, Spiratone leads in introducing what is probably the most-needed accessory for slide projectors: A base with a built-in blower, to provide ample air circulation for your projector, to prevent damage to your slides, to make prolonged slide projection more comfortable! In fact, in many projectors you can use a bulb 50 or 100 watts stronger than your present one, when using a blower base! Base is made of metal, with black wrinkle finish, rubber feet, has outlet for projector and U.L. approved 8-foot cord. AC only.

Shipping Weight 5 lbs.

BLOWER CASE fits all 2x2 slide projectors, consist of base (above), cover with carrying handle, also all metal. For only pennies more than the cost of a regular case. **$9.95**

Portable, Crystal-Beaded

TRIPOD SCREEN $5.89

Sensational! Never before was a fine quality screen offered at so low a price. Crystal-beaded pyroxylin surface adds extra brilliance to your pictures! Screen raises and lowers on elevating rod, assures positive screen alignment. The metal can is finished in scratch-resistant hammertone blue enamel. Carrying handle sets automatically for balanced carrying. The sturdy tripod is chrome-plated and has protective rubber tips. WITH OTHER MAKE SCREEN PRICES RISING, THESE LOWEST-IN-SCREEN HISTORY PRICES AND MANY VALUABLE FEATURES ADD UP TO ANOTHER UNBEATABLE SPIRATONE VALUE.

Screen Size		Appr. Shpg. Wt.
30"x30"	$ 5.89	7 lbs.
30"x40"	6.49	8 lbs.
40"x40"	8.39	9 lbs.
37"x50"	9.64	12 lbs.
50"x50"	11.89	13 lbs.

USUALLY RUNS DOUBLE!

Lumitrol Dimmer Switch $3.00

A "must" for successful indoor photography. Avoid that tired look on your subject's face, provide longer life for photofloods. Lumitrol has 1250 watts capacity (2 No. 2, 4 No. 1 or 1 No. 2 and 2 No. 1 photofloods), single hi-lo-off switch, 10 foot cord. Beautifully finished and compact (4"x3"x3"x1½").

Shipping Weight 2 lbs.

POLISH UP YOUR PROJECTION WITH

PROJECTOTROL $3.25

Avoid the mad scramble for a room-light switch when the show is over! Whether you have a slide or a movie projector, PROJECTOTROL is what you need. Plug your table or floor lamp into one outlet, the projector into the other. Snap switch to "projector" and off goes the house light, on the projector! 1250 watts capacity. 10 foot cord, construction outwardly identical to Lumitrol.

35MM SLIDE ATTACHMENT

FOR

16MM PROJECTORS $15.95

We proudly introduce on the American market this long-desired accessory which transforms any 16mm projector with a lens barrel of 1½" in diameter, such as Revere, Keystone, Ampro, Natco, Victor into a fine, blower-cooled 35mm stripfilm and 2x2 slide projector. Simply remove the lens and insert attachment! A unique optical system assures 100% even illumination over the entire 35mm slide and the superb Rodenstock projection lens throws a needle-sharp image. A dual slide carrier and a stripfilm attachment add to the completeness of the outfit.

Shipping Weight 5 lbs.

Save on Guaranteed Spiratone

35MM RELOADS

Spiratone 35mm reloads in metal cartridges are clearly labeled with brand, number of exposures and expiration date. Your choice of Kodak Panatomic X, Plus X, Super XX or Ansco Supreme. 20 exposures: Each 35c, 8 for $2.00, 18 for $4.00. 36 exposures: Each 50c, 5 for $2.00, 11 for $4.00.

Exclusive with Spiratone: Factory-fresh Safety Anscocolor, Daylight Type, each Screen for $10.00. **$1.50** postpaid

This film is unconditionally guaranteed to be in every respect equal to factory-packed Anscocolor film and is not to be confused with reloaded motion-picture film generally sold at a lower price. Expiration Date at least one year from date of purchase.

ANSCOCOLOR PROCESSING and 1 2¼x3¼ COLOR PRINT **$1.00**

Take advantage of this unusual offer and send your Anscocolor films for expert 72-hour processing to Spiratone. Enclose transparency for free print or ask for print coupon! 20 exposure rolls (doubleframe) processed and mounted $1.00.

You asked for it! We made it up!

10-PIECE RETOUCH KIT $2.39

For Negative and Print Retouching

Here, indeed, is an outfit every amateur needs—and can afford. How was it done? Our buyers bought the individual components of this kit from selected manufacturers, all of them foremost in their own line. Two fine spotting brushes, an X-acto etching knife with removable blade, a jar of opaque, and solutions suitable for spotting black and white and sepia prints, a set of pencils and a negative retouching medium are provided. Red India Ink for effecting intensification of light (dark-printing) negative areas makes the kit extraordinarily complete and versatile.

Shipping Weight 2 lbs.

SPIRATONE BACKS AND RECOMMENDS THESE NATIONALLY KNOWN QUALITY

LEATHER GADGET BAGS

Made by one of the foremost manufacturers in the field, and exclusively offered by us, through a special purchase, below the usual wholesale prices. These bags are all brand new, first class merchandise not to be confused with "seconds" or "closeouts" or inferior leather bags.

Shipping Weights of Gadget Bags are 2 lbs. and 3 lbs.

SP1. Really the solution for the photographer with few accessories, yet just too many to carry around separately. The SP1's rectangular shape and lack of inside divisions give it ample storage space for a bag only 10"x7"x4". A reinforced bottom, a large foldover flap and two small side flaps assure maximum protection, for the contents. The SP1 also makes a sporty "over-the-shoulder-bag" for the young lady. Spiratone-priced at only **$3.33**

SP2. The SP2 is liked for its all-around versatility. Made of top-grain elk-tanned cowhide, the SP2 will be yours for years of rough handling. One large, two small inside pockets, one convenient, yet not bulky, outside opening zipper pocket, rigid shape-retaining bottom, reinforced with brass studs, 8"x10"x3"—recommended for the camera fan who likes his filters, exposure meter, extra films accessible, yet prefers extreme compactness. Available nationally at $10.00—a Spiratone buy at **$5.59**

SP3. Basically of the same over-all construction as the SP2, the SP3 boasts in addition a roomy outside pocket that will hold plenty of the extras that make picture-taking real fun. Reflex Camera owners with lots of accessories will appreciate the added conveniences of the SP3. Budget- priced at half of list **$6.95**

SP4. A jumbo-sized genuine top-grain cowhide bag of beautiful appearance. Ample in size—9"x11½"x4"—for small press cameras and plenty of accessories. Zipper around top for easy accessibility at contents. Roomy inside pockets and an extra large outside pocket. An unusual opportunity for the serious amateur and professional who wants an "easy-to-get-at bag" which his friends will never suspect cost only **$10.95**

TURN PAGE FOR MORE SPIRATONE VALUES

A sensational camera offer

35MM BALDINI $29.95

Thanks to an exclusive import agreement you can now obtain one of the most popular German 35mm cameras at an unusually low price! No other name-brand precision 35mm camera under $60.00 offers so much for so little!

Made by the world-famous Balda Works, the Baldini features a fast, coated f:3.5 lens; Prontor S, the gem of shutters, with eight speeds from one full second to 1/300th and B, built-in flash synchronization and delayed action; a brilliant optical viewfinder; automatic frame counter; body shutter release; depth of field scale; and above all, extreme compactness: 5"x3"x1¼". The Baldini uses standard 35mm cartridges, is equally well suited for color and for black and white film.

Eveready Leather Case, $5.49; Flashgun, $5.49.

The Best Buy in Folding Cameras

WALTAX Jr. $19.95

If there ever was a camera bargain, this is it! But don't let the price mislead you: The Waltax takes needle-sharp pictures you can't distinguish from those taken with cameras costing five times as much! Its body is all metal: the optical viewfinder shows a brilliant image; the double action shutter has speeds to 1/150th second and is fully flash-synchronized; its body release assures comfortable shooting. The coated f:11.5 lens is superb in definition at all openings, and has settings from three feet to infinity. The Waltax takes 16 pictures on standard 120 or 620 film.

Compare this camera with other folding cameras under $25.00 and you'll agree that you just can't go wrong buying a Waltax!

SUGGESTED ACCESSORIES FOR THE WALTAX JR.

Eveready Leather Carrying Case, a must to protect the camera	$3.95
Flash Unit, complete with reflector, bracket, battery case, cable	4.95
10" Cable Release	.59
Rangefinder, fits accessory clip	3.95

BRAND NEW, COATED 90MM f:4 KINE

EXACTA TELEPHOTO $25.95

Thanks to Spiratone's great purchasing power, a large lens manufacturer has made these lenses for us, under an exclusive contract. Comparable in quality and performance to domestic and other imported lenses costing twice, three and four times as much, this lens is unconditionally guaranteed by us.

Specifications: Chromium mount—settings in feet, from 3½ ft. to infinity—lens openings from f:4 to f:16—magnification: 3½ times the area—depth of field scale.

UNBEATABLE KINE EXACTA VALUES

NEW! FLASMUNIT with two extension outlets, 6"x6" reflector, a $15.00 value	$ 9.95
35MM f:2.5 Angulon Retrofocus WIDEANGLE shortest focus ever made for Kine Exakta, has 64 degree angle	99.50
85MM f:2.8 Steinheil TELEPHOTO ideal for portraiture and ultrafast moderate telephoto work	59.95
Zeiss 135mm f:4 Triotar TELEPHOTO lens, coated, reg. $99.00	34.95
40MM f:4.5 Meyer Heliopian WIDEANGLE, coated, reg. $99.50	59.95
FOCUSING HOOD facilitates focusing and composition	1.25
Set of three EXTENSION TUBES, improved type, with adapters, reg. $17.95	12.95
EXACTA GUIDE, a book every Exacta owner must read, latest edition	1.75
Combination LENSSHADE and filterholder, screw-in, for VI, for Bantor	2.50
FOCUSLIX, for rangefinder effect, even at smaller openings, easily installed on ground glass	3.95

F:2.8 WIDEANGLE FOR LEICA $49.95

with leather case and finder

A really exceptional buy! A brand-new ultrafast coated 40mm f:2.8 wideangle lens, rangefinder-coupled, with separate wideangle finder and a beautiful leather compartment case which holds both lens and finder! Covers undistortedly 52 angle! Exclusively imported by Spiratone!

OTHER LEICA SPECIALS

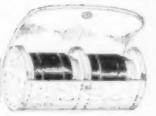
50MM f:2 COATED LENS opt. to rf.	$34.50
90MM f:4 COATED TELEPHOTO, opt. to rf., with finder	37.95
135MM f:4.5 COATED STEINHEIL TELEPHOTO, opt. to rf.	69.95
85MM f:2.8 COATED STEINHEIL TELEPHOTO, opt. to rf.	59.95
NOOKY-TYPE CLOSEUP DEVICE, opt. to rf., specify whether for Elmar, Summar, Summitar	16.95
SELETIMER, screws over release button, automatically retracting pin	2.95
CABLE RELEASE, with setscrew	1.25
EXTENSION TUBES, set of three, 10mm, 20mm, 30mm	4.95

For Color, For Black and White

SPIRATONE TELEPHOTO and Wideangle Lenses

HAVE PROVEN A MUST!

$16.95 each lens



For these cameras: Argoflex, Argus A2, C2, C3, 21, Bantam, Bolsey B, B2, C, Ciroflex B, C, D, E, F, Kine Exakta, Kodak 35 (RF), Kodak Reflex, Mercury I, II, Perfex, Polaroid Land, Pony 828, 135, Retina, Rolleicord, Rolleiflex (bayonet) Uniflex, Vito.

Set of Telephoto and Wideangle lenses for any of the cameras listed **$29.95**

New, uniformly low prices save you between $5.25 and $19.70 per lens!

NEW FEATURES NOT AVAILABLE BEFORE

Telephoto Finder Mask, supplied free of charge with every lens, for every 35MM camera requiring it.

All lenses furnished with either built-in or separate filterholders (saving you $1.25 or more per lens!)

Interchangeability of adapters so that one lens may often be used on several different cameras.*

Scientifically designed means of attachment of auxiliary lens to camera—every adapter expressly fitted for your camera.

*If you wish to purchase a lens or set of lenses to be used on two or more cameras, write us what your problem is, and we will try to furnish you with that model which can be adapted for use with your particular cameras. Each lens is furnished for use with one camera only—additional adapters are $1.25 each.

Spiratone has tried to introduce impossibly great savings! Lenses on the market. Spiratone lens again so strong you get only complete line of telephoto and wideangle lenses at the lowest price ever!

WARRANTY: Spiratone Auxiliary Telephoto and Wideangle lenses are guaranteed to be the finest available and to offer you more valuable features than any similar lens at the same or a higher price.

FILTERS: Your choice of medium yellow, green, orange, red, haze, type A and photoflood conversion, for use with Spiratone lenses:

Each Filter	$1.00
Set of three filters (your selection) in leather pouch	$2.49
Additional Filters — each	$.80

PROVEN FEATURES STILL AVAILABLE DESPITE NEW LOW PRICES:

Extra-hard S-coating.

Full color correction.

Free genuine leather case.

Lifetime Service Guarantee.

No change in exposure or lens opening necessary.

Wideangle Finder Attachment for 35MM cameras **$1.95**

When ordering, be sure to state what camera and lens you have.

IT ANSWERS EVERY NEED!

MULTIVIEW SAFELIGHT $3.95

A manufacturer of a high quality line of expensive safelights is making up for us, along the same lines as his costlier units, a safelight that has really every feature you could ask for! The Multiview has TWICE as much illuminated filter area as other safelights in the $4.00 to $5.00 range. It comes equipped with a OA-type filter, appr. 6"x8", for contact printing and enlarging, which is heatproof, coldproof, acid-resisting, non-fade and practically unbreakable. Scientifically controlled color density assures foo-proof enlarging, even under longer exposure to the safelight.

The steel housing, finished inside with reflector white, is mounted on a sturdy ball and socket bracket that allows 360 degree directional light adjustment. Can be mounted on table, wall or ceiling. Complete with porcelain socket and bulb, a value that can't be beaten for twice our price of $3.95.

Extra filters, if ordered with safelight, $1.00 each. Specify orthochromatic, panchromatic or both.

Shipping Weight 3 lbs.

Save $29.00 on Famous Make

12"x15" Contact Printer $15.95

Made by one of the best-known manufacturers, this portable printer will serve equally well as a contact and photostat printer, an X-ray viewing device or a retouching stand. Even illumination is assured by incandescent tubes (supplied by us) and the felt-covered pressure plate inside the lid guarantees perfect contact at all points. The printer is made of wood, with corners metal-reinforced. A carrying handle is provided for easy portability. Regularly $53.00. DOCTORS, STUDIOS, SERIOUS AMATEURS—DON'T MISS THIS BUY!

Shipping Weight (crated) 22 lbs.

SUNRAY ENLARGER $9.95

with lens and case

A compact, portable 35mm to 2¼x3¼ enlarger, ideally suited for the beginner with a limited budget. Complete with bulb, lens, negative holder, ready for use and instantly disassembled and stored in the handy carrying case.

FREE: MONTAGE KIT, worth $3.75. For making 5x7, 8x10 and 11x14 composites with your enlarger!

Shipping Weight 7 lbs.

Suggestion: Set of five ENLARGING MASKS, up to 8x10 $1.30.

Another Spiratone Scoop!

FOOTSWITCH $2.39

No need to miss up on dodging or vignetting that print; no need to let your enlarger overheat for lack of a handy switch! Your enlarger or contact printer plugs right into the new Pioneer Footswitch, is all ready for use. Substantially built of a rustproof metal, the Pioneer is designed to give you years of satisfactory service!

Shipping Weight 1 lb.

Reg. $13.50

ENLARGING TIMER $7.95

Designed to sell for almost double our low price, this fine timer will solve your exposure problem on enlargers and contact printers alike. It can be set for any length of time from ½ second to sixty seconds, has a self-starting, heavy duty synchronous motor and is built to give a lifetime of service. Easy reading scale. Three-way switch for independent focusing light. "Timora" will help you get uniformly perfect prints, save lots of time and paper. AC only.

Shipping Weight 3 lbs.

Save $2.20 on the most popular Focusing Device for Enlargers

SEESHARP $1.00

A precision instrument that reproduces the exact focus that is on the easel. The image reflected in the Seesharp is far brighter than the corresponding image on the easel, because the Seesharp mirror reflects much more light! Brilliant magnification makes critical focusing of normal negatives simple and positive. Seesharp is your only sure means for obtaining perfect focus from dense negatives or at great magnification. Regularly $3.20. Postpaid $1.00.

FREE with Seesharp: Chess-board Magnifier, worth 75c. Helps examine negatives, in focusing, etc.

All-Metal, Adjustable

11x14 ENLARGING EASEL $5.95

Made throughout of heavy gauge steel. Spring steel masking bands assure perfect border alignment and prevent buckling of paper. Adjustable to all sizes. Clear white rules on black background for easy darkroom visibility. White enameled base.

FREE with 11x14 easel: $1.99 Teststrip Maker.

Shipping Weight 5 lbs.

8x10 ENLARGING EASEL, same construction as 11x14 model $3.95.

Shipping Weight 3 lbs.

OIL COLORING SET $1.00

Spiratone brings you TWICE as much value in this set—eight ½"x1" tubes for only $1.00. Set 2 includes eight tubes, plus accessories, $1.25. Set 3 contains eight ½"x2" tubes, $1.30. Set 4 contains accessories as well, $1.75. Sets 5 and 6 contain sixteen ½"x1" tubes, set 6 also accessories, $2.00 and $2.25. Sets 7 and 8 contain sixteen ½"x2" tubes, set 8 also accessories, $3.25 and $3.75.

Any set you choose—you buy quality at half cost

POLARIZING FILTER $2.49

Series V

21.5mm or 25mm $2.00—Series VI $2.98

The only sky-filter that can be used with color! Helps eliminate reflections in water, show-windows, landscapes; increases contrast between sky and clouds. Recommended for use with Kodachrome, Anscocolor and all black and white films. Fits standard filterholders.

Formerly, you had to pay $6.75 for a Series VI, $5.75 for a Series V polarizing filter—Spiratone brings your cost down to less than half!

Polarizing filters are delivered in leather-like snap-button compartment cases at no additional cost.

GIGANTIC SALE IN OPTICAL GLASS FILTERS

Series V and VI mounted in rings. All filters ground and polished. Your choice of medium yellow, orange, green, red, haze, type A or Photoflood conversion.

21.5mm ea. 75c **Series V ea. $1.00**
Series VI ea. $1.25

FREE: With order for three or more filters: Genuine Leather Filter Pouch.

FILTER BANK $3.49

The answer to the photographer's dream! Genuine leather, can't scratch or break. Doesn't fill up gadget bag, but fits right on carrying strap. Shade, adapters, filters are instantly accessable, yet well protected. Accommodates standard shade, four filters and two adapters, or shade and eight filters. Was made to sell for twice our price, and Spiratone reduced to compete with filter containers made of much shorter-wear materials. Series V $3.49—Series VI $3.98.

ALL METAL

RANGEFINDER $3.95

For the first time, a quality instrument of this kind is offered at a price below $9.00! In finish, in looks, in performance, you can't distinguish this accurate rangefinder from the very best type. Shows distances in feet, from 3 ft. to infinity. Can be adapted to fit accessory clip of some cameras; can always be used as pocket rangefinder.

Imported All Metal

SELFTIMER $2.95

This is the only delayed action timer of this type which screws directly into the cable release socket. It features a first rate mechanism, adjustable time lapse and an automatically resetting release pin—to prevent damage to the delicate shutter mechanism. Models to fit almost every camera—please state what you have.

MAKE YOUR

ARGUS, KODAK 35, BOLSEY, LEICA, CONTAX, PERFEX, KINE EXAKTA, PRAKTIFLEX, CLARUS

INTO A

STEREO CAMERA

Taking stereo-shots with one of the 35mm cameras listed is almost as simple as making two-dimensional shots. And you'd never expect that your own camera is capable of producing such life-like picture—with a single click of the shutter and on a standard 2x2 transparency! Stereotach slips on and off the camera instantly, creates a double stereo negative or transparency on your film. There is no subject that won't gain immensely when viewed or projected in three dimensions! You'll marvel at the transparencies come to life in your viewer!

The outfit, exclusively offered by us, contains a special model Stereotach for your camera, a three dimension viewer, a roll of color and a roll of black and white film, both with free processing for stereo viewing and projecting by us.

Another Spiratone Exclusive

Combination Pole

Tripod—Copy Stand $10.95

and Projector Table

No movie or still photographer will want to miss it! The most versatile accessory ever offered. The Pole Tripod alone, with its adjustable elevation feature has always been a favorite with Spiratone customers. A unique brace arrangement not only holds the Pole perfectly steady, but also assures 100% support for the heaviest cameras! Yet, the tripod weighs only 4½ lbs., telescopes to 25". The Pole is adjustable from 38" to 55" above floor level; a single twist locks the legs in any desired position. Reversible metal and rubber tips. Easily an $18.00 value!

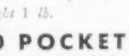
Shipping Weight 5 lbs.

Recommended Accessories:

PROJECTOR-TOP. Holds any movie or still projector at any desired height. Fits right on top of tripod. **$1.49**

COPYING ATTACHMENT. Fastens by means of setscrew to bottom of pole and transforms your tripod into a practical copying and titling stand. **$1.49**

ARROW PANHEAD. A $13.00 seller made for serious amateur and professional photographers. Supports the heaviest cameras at any desired angle. **$5.49**



SPIRATONE PANHEAD

A chrominum-finished tilthead which sturdily supports the heaviest movie, 35mm, 2¼x3¼, 2¼x2¼ cameras. Single motion panning and tilting action, locked by simple turn of the handle. **$1.89**

Shipping Weight 1 lb.

IMPORTED POCKET

Tripod. Only 9" long when telescoped. It fits into any gadget bag, hardly sticks out of your coat pocket. Weight: 8 oz. Yet, its seven all metal sections extend to over 44", 53½" with the extender you receive with the tripod. Leg-stops and rubber tips prevent slipping on any surface. **$7.99**

Shipping Weight 2 lbs.

DIRECTOR

Evn-Pan Tripod (formerly sold as American Bolex tripod at $43.20), one of the greatest values ever offered. Panhead locks and unlocks with quarter turn! Tripod folds down to 29½", weighs only 5 lbs. yet it extends to 64"! Supports cameras weighing up to 200 lbs. Reversable steel tip and rubber feet. For the still or movie photographer who desires the very best. **$14.95**

Note: some tripods show a slight indication of being shopworn, as evidenced by minor scratches in the finish. However, all are brand new, mechanically perfect and unconditionally guaranteed.

Shipping Weight 7 lbs.

THREE SECTION

Metal Tripod with Spiratone Panhead. Nothing was ever offered to compare in value with this inexpensive outfit. The legs fold down to 18", extend to 45"; the tripod weighs 15 oz. and will satisfactorily support medium and lightweight cameras. **$2.95**

Shipping Weight 2 lbs.

WALNUT TRIPOD

with Adjustable Extender

We don't dare mention the original cost of this solid stained walnut government surplus tripod with brass fittings and recommend it only to the meticulous photographer who appreciates an exceptional buy. Whether you own a miniature or a press camera, if you want extreme sturdiness, THIS IS IT. Tripod can be disassembled in a few seconds to a 15½" package. It extends to 41½", 60" with the Extender. Single turnbutton raises your camera to 38" above tripod. **$7.77**

Shipping Weight 6 lbs.

EXTENDER ALONE, reg. $3.95—$1.98.

"TRIPOD OF THE MONTH"

6-section brass tripod, chromium finish, extends to 54", telescopes to only 15½". Ideal for 35mm, reflex, small folding and 8mm movie cameras, complete with Spiratone Panhead. By all established standards, this tripod should sell for twice our price of **$6.95**

Shipping Weight 4 lbs.

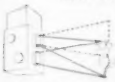
COPYING STAND $6.49

Again, you will look to Spiratone for an important accessory at a down-to-earth price! Designed by us to combine usefulness and economy, the Spiratone Copying Stand will prove equally useful for copying old photographs, drawings, documents; for medical and scientific work; for movie titling—for virtually any kind of closeup work. The stand consists of a 10"x14" wooden board to which the pole is removably attached. The camera bracket slides smoothly up and down the pole and the special adjustment feature makes possible centering of the camera over the subject. The unit is delivered ready for assembly within seconds—no extras needed.

LIGHT ATTACHMENT, made to be raised or lowered on pole, with adjustable goosenecks, reflectors, cord and switch **$4.95**

DELUXE COPYING STAND, same as above, but with 20"x20" base board and 20" pole, for photographing larger originals, drawings, etc. **$8.75**

PARALLAX—CORRECTING CLOSE-UP SETS for ROLLEI, CIRO, ARGO, UNI, IKO, ANSCO, KODAK REFLEX AND BOLSEY C CAMERAS $3.95



Set consists of matched closeup lenses for taking and viewing lenses, including parallax-correcting prism. Only Spiratone offers you these extremely useful, in fact indispensable sets, at a fraction of the usual cost—yet unconditionally guaranteed. A SIMILAR IMPORTED SET FOR THE ROLLEIFLEX COSTS $28.00!

Ideal for portraits, copying, clinical and child photography. Lenses fit standard filterholders (Kodak Reflex requires special viewing lens holder $1.00). Filterholders, $1.00 each.

Plus 1 set $3.95, Plus 2 set $4.95, Plus 3 set $4.95.

STEREO REALIST COSE-UP SETS $9.90

Each set consists of matched closeup lenses with specially calculated prisms assuring perfection in stereo viewing and projecting. Available in Plus 1, 2 and 3—all three sets for only $25.95. Ser. V filterholders, $2.

Ground and Polished

CLOSE-UP LENSES

Plus 1 for distances from 20" to 38".
Plus 2 for distances from 13" to 20".
Plus 3 for distances from 10" to 13".
21.5mm each 75c Series V each $1.00
Series VI each $1.25

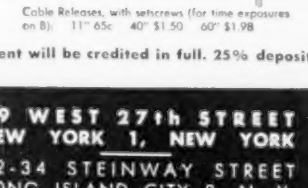
EXTREME CLOSE-UP STAND $3.95

One of the most useful gadgets we have ever seen! Whether you own a 35mm, 2¼x2¼, or a small folding camera (up to 2¼x3¼), you can now take close-ups of coins, insects, stamps, flowers or any other small object with the simplicity of a snapshot of the baby! Camera is automatically centered; no need to watch parallax. Doctors, clinical workers, dentists, botanists, stamp and coin collectors will welcome this precision instrument. Comes complete with lens, removable legs and simple instructions.

40" CABLE RELEASE $1.25

Here is your opportunity to obtain an extra long cable release for your camera—at almost one third of the usual price and for pennies more than a short release. State what camera you have when ordering.

Other Cable Releases, for Compur and Kodak-type shutters: 4" 25c 7" 35c 10" 45c
10" for Argoflex, Ciroflex B, Leica $1.00



Cable Releases, with setscrews (for time exposures on B): 11" 65c 40" $1.50 60" $1.98

All prices include excise tax. Be sure to allow for approximate shipping costs—overpayment will be credited in full. 25% deposit required on C.O.D. orders. Everything listed is brand new and fully guaranteed.

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PRESS

By A. J. Eziekson

THE cameramen covering the Korean war are having more than their share of danger and death. Charles D. Rosecrans, Jr., of International News Pictures, was killed in the crash of a C-54 transport plane. Ken Inouye, 22-year-old photographer for Telenews, an affiliate of International News Service which supplies films for television programs, was

Photographers Charles D. Rosecrans, Jr., left, and Ken Inouye, right, were among those killed in the crash of a C-54 transport plane in the Korean area.

another fatal victim of the crash. Rosecrans, a popular and colorful figure in the news world, was in Korea from the earliest days of the fighting. Charles P. Gorry, Associated Press staffer, one of the first American newsmen to return to this country from the Korean front, tells of other risks and the difficulty of getting the pictures back to the States. "You had to hitch hike your way to the front," he says. "You just decided which way you wanted to go, got on the road to that front and thumbed your way. You always covered yourself with DDT (those Korean fleas and lice are murder)." Getting the pictures back to Japan for radio transmission to the United States was really a problem, he reports. "You had to hitch a ride to the airport, find a plane going to Japan and hope that through some mysterious means your pictures would eventually find their way to Tokyo and the rest of the world."

* * *

WHEN Mal Kerwit was in Guam on V-J day, he had a photograph taken showing him and three other buddies holding a New York subway sign which he "borrowed" from the Grand Central-Times Square shuttle. Recently he wanted to present the sign to the Museum of the City of New York, and along with it the photo which the Associated Press had taken. He wasn't sure of the photographer's name. So he called the New York office and was told that it was Max Desfor and that it just happened Desfor was in town for a short time between his Rome and Korean assignments. "Fine," said Kerwit, "and where can I get in touch with him?" "He's at the Hotel Wellington." "The Wellington!" exclaimed Kerwit. "That's fantastic. That's where I am—I'm its public relations man."

* * *

MERLE AGNELLO, *Johnstown* (Pa.) *Democrat* staff photographer, addressed recently a meeting of 40 editors and publishers of Pennsylvania Associated Press-affiliated newspapers on the purposes and objectives of the National Press Photographers Association. Agnello appealed for editorial support and help in the NPPA's fight for equal rights for photographers with reporters in the nation's courtrooms. Agnello recently was honored by his paper for winning the top award for papers of 20,000-30,000 circulation in the 1950 NPPA Photo Contest.

* * *

KIRK BRAUN, *Portland* (Ore.) *Journal* staff photographer, has been called back to duty in the Air Force.

* * *

YOU can always look for a certain figure (and I don't mean female) at the Miss America beauty pageant in Atlantic City—and he'll be there. He's Samuel Myers, photographer of the AP's Philadelphia office, and he's covered all of the contests since they were started in 1921. Sam used to photograph the winners with flash powder instead of flashbulbs. September of this year marked his 40th anniversary as a news photographer.

* * *

THE White House Photographers Association has voted to make all its charter members new life members.

* * *

WHEN Les Ordeman, *Portland* (Ore.) *Journal* staff cameraman, called at a hospital there recently to get a shot of Earl H. Hansen, a prisoner hospitalized with a gunshot wound, he was told that he would have to get a signed release from Hansen. The prisoner, held on a larceny charge, told Ordeman he couldn't make the picture, but changed his mind when the photographer threatened to use a picture taken from police files. Portland cameramen, used to the ordinary obstacles in picture making, say this is the first time they've run into the signed release requirement.

* * *

AN EXHIBIT of 214 photographs taken by Al Madsen, assistant photo chief of the *Chicago Tribune*, on the 24,000 mile flight with publisher Col. Robert R. McCormick, drew such crowds in Chicago that the display was run for four weeks, instead of the two as planned.

* * *

SOMETHING of a record belongs to the *Philadelphia Inquirer's* photographic staff, in covering the recent National Jamboree of the Boy Scouts of America at Valley Forge, Pa. Four photographers, John Culross, Albert McCaughey, Robert Mooney and Frank Johnston, the chief, were assigned, and Johnston directed the

(*Continued on page* 188)

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Capture The Joy Of Christmas! So Easy–With A Kalart Speed Flash

CHRISTMAS comes but once a year! Don't miss this wonderful opportunity to capture forever your family's gayest, happiest moments. It's easy to take snapshots indoors – night or day – when you add a Kalart Speed Flash to your camera. No need to ask the children to hold still. The flash of the lamp is so quick it stops most motion. In addition, a Kalart Speed Flash gives you *plenty of light, right at your finger tips.* Click the shutter and your Kalart automatically lights the flash lamp at just the right moment to give you a clear, brilliant picture. There's a Kalart Speed Flash for almost every camera – old or new. From $8.95. Easy to attach and use. Ask your dealer for a demonstration.

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There's a Kalart Speed Flash for almost every camera–old or new. Prices from $8.95 to $24.60.

A – Kalart De Luxe Flash Unit on Ciroflex
B – Kalart Compak Flash Unit, Polaroid Land
C – Kalart Master Flash Unit on Graphic
D – Kalart Master Passive, Kodak Vigilant
E – Kalart De Luxe Automatic, Kodak Retina
F – Kalart De Luxe Speed Flash on Kodak
G – Kalart Master Automatic on Argoflex
H – Kalart Compak Flash Unit, Kodak Tourist

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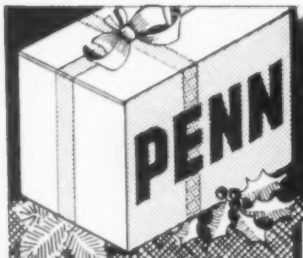

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Still a Best Buy! A Brand New KINE EXAKTA II

35mm Reflex Camera

With Zeiss Biotar "T" Coated f2 Lens

$169.50

(Eveready Leather Case, $7.50)

SUNRAY ELEVATOR TRIPOD

With Pan-Tilt Head

A superb sturdy, smooth-working elevator tripod at a fraction of the originally intended price. Rising with ease, lock in impossible to outdone protection. A fantastic tripod, complete with features. • All-metal aluminum alloy construction. • Three-section tubular telescoping legs—upper sections, 1" in diameter • Double-action, single control pan-tilt head with flat 2¼ x 4 inch camera rest. • Leg-spread restricted to prevent slipping. • Fully extended, elevator movement provides a height range from 59 inches to 71 inches. • Closes down to a compact 26 inches. • Weighs only 5½ pounds.

SPECIAL (Ship. wt. approx. 8 lbs.) **$17.95**

The NEW FOTOLARGERS ...at New Low Prices!

Now available in two sizes ... 4 x 5 as well as 2¼ x 3¼. The 2¼ x 3¼ model is equipped with a 2-part upright for compact storage and portability.

FOTOLARGER 2¼ x 3¼	Model D Diffusion	Model C Double Condensers
Less Lens	$19.35	$24.75
With 3½" Achromatic f6.9 lens	$22.95	$28.35
With 3½" Elgeet f4.5 Coated Lens	$32.35	$37.75

Furnished with 1 Negative Carrier. Specify size. Extra carriers, $2.75 each.

FOTOLARGER 4 x 5	Model D Diffusion	Model C Double Condensers
Less Lens	$44.55	$62.55
With 5½" Elgeet Coated Lens	$71.55	$89.55

Furnished with 1 Negative Carrier. Specify size (35mm, 2¼ x 2¼, 2¼ x 3¼, 3¼ x 4¼ or 4 x 5) Extra Carriers, $5.00 each.

Accessory Counterbalance for 4 x 5 Fotolarger, $4.00

"TOP-FLIGHT" *Gadget Bags*

Genuine elk-tanned top-grain rawhide • Provided with internal compartments to accommodate camera, meter, flash, filters, and other attachments.

• Also has a roomy outer compartment for miscellaneous accessories • Foolproof zipper for quick access to contents, and complete protection under all weather conditions • Reinforced seams; bottoms stiffened for added support, and brass studded for long wear • Adjustable shoulder strap. (Dimensions given do not include outer pocket.)

Model L-5, 6" x 10" x 3" ... for most 35mm, reflex, folding and other still cameras as well as 8mm movie cameras and accessories. $12.80 Value ... **$12.95**

Model L-2, 12" x 10½" x 3½" ... for 2¼ x 3¼ Graphics and accessories, or the equivalent in other equipment. $26.00 Value ... **$18.95**

Model L-10, 14" x 10½" x 3" ... Jumbo Press Bag ... for all size Graphics and accessories or the equivalent in other equipment. Has removable filter and meter pocket; as well as tripod straps under bag. $44.00 value ... **$29.75**

"TOP-FLIGHT" Texhyde Gadget Bags

The durability and texture of genuine leather in low cost Vinyl plastic-laminated fabric. All the features of the "TOP-FLIGHT" leather line.

Model P-5, same as Model L-5 ... **$7.50**

Model P-2, same as Model L-2 ... **$8.95**

Model P-10, same as Model L-10 ... **$10.50**

ECONOMY MODEL

8" x 10" x 3". All purpose carry-all satchel has all features found in more expensive lines. $12.50 Value. A Terrific Buy at **$6.95**

Get ready for INDOOR PICTURES MOVIES & STILLS

With These Economical Light Units

KODAFLECTOR

An unusually light, compact and highly efficient twin-light stand assembly. Two cone formed highly polished metal reflectors mount on two independently controlled horizontal cross-arms which fasten to the folding stand, providing a range of height extensions from 2 feet, 10 inches to 6 feet, 4 inches. Each reflector can be individually adjusted as to angle, and unfolds flat for easy, space-saving storage. (Ship. wgt. approx. 9 lbs.)

Special **$3.95**

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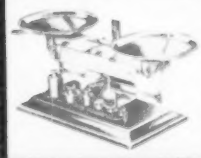

Dependable enough for weighing gold-dust ... but, you will probably want one for your darkroom work. A single counterpoise with knife-edge pivots insures a smooth balance action and consistent accuracy. Constructed entirely of metal with an acid-resistant surface finish.

Specify Metric or Avoirdupois. (Approx. Ship. wgt. 4 lbs.) **$5.98**

"TOP-FLIGHT" FOLD-A-LITE

A compact, efficient lighting unit ... uses 4 reflector-type floods. Attaches to any movie or still camera. Light follows wherever camera is pointed. May be hand held or attached to tripod or stand ... A single "on-off" rotary selector switch provides finger-tip control for a choice of 3 light combinations. Hinged fold-to-action feature reduces over all length to 14½ inch for compact storage and portability ... Pressed steel ... weighs only 3 pounds ... supplied with fluted plastic handle and 6 ft. of heavy duty power cord.

Only $9.95 Less Bulbs

(Approx. Ship. Wt., 6 Lbs.)

RFL-2—Reflector Floods, 4 for $4.15

(Combined Ship. Wt., 11 Lbs.)

Graphic & Press Camera Owners! The ARISTO Cold Light Pack

Will convert your 4 x 5 Graphic or other Press Camera into a highly efficient 4 x 5 Cold Light Enlarger, and back again ... all in a jiffy ... and at a fraction of the cost of a cold enlarger. The ARISTO Cold Light Pack provides a highly efficient light source, uniform light spread, flicker or heat reflection. Low current consumption and long life (approx. 10,000 hours) makes this one highly economical. (Approx. ship. wt. 11 lbs.)

Reg. $38.75 **Special $27.50**

NOTE: The TOP-FLIGHT Multi-Purpose Copy Stand, described on the opposite page, will support your camera and ARISTO Combination for vertical enlarging.

ALKON All-Metal Film Holders

Rugged. Lightweight. Magnesium alloys ... practically indestructible. 20% thinner. Warp-proof. No fabric hinges to fray or tear. Unaffected by climate. Fits all Graphics and other cameras with standard press-type spring backs.

Size	Reg.	Special
2¼ x 3¼	$4.00	$3.10
3¼ x 4¼	4.25	3.20
4 x 5	4.40	3.35
5 x 7	4.90	3.65

MINOX II Camera

"King of the Mini-Miniatures"

II New $198.50

Like New $84.50

Coated f3.5 lens • Shutter speeds from ½ to 1/1000 sec. • Focus from 2" to infinity • Built-in filters • Weighs only 2½ ounces • Supplied with case and measuring chain. (Approx. ship. wt., 2 lbs.)

MINOX Film, per 50-exp. cartridge 98c

SUNRAY 8 x 10 Easel

Brand New!

Special

$4.49

An all-metal enlarging paper holder with adjustable sliding bands. For prints up to 8 x 10 inches. (Approx. ship. wt., 3 lbs.)

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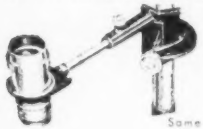
STEWARTRY COPY ATTACHMENT FOR LEICA

A precisely constructed and assembled device designed to extend the range and usefulness of the Leica Camera, in the field of copying and close-up photography. Provides for accurate ground-glass focusing. **$9.75**



STEWARTRY COPY ATTACHMENT FOR CONTAX

Same as Leica Attachment, but for CONTAX **$9.75**

STEWARTRY UNIVERSAL ARM

Will support camera and any standard copy attachment . . . can be attached to any post or upright having diameter of 1¼" to 2½". Arm may be lowered or raised for size adjustment. Slides in and out, and may be turned for positioning. **$9.75**

OTHER COPY EQUIPMENT

Proven performance and incomparable prices. See for yourself . . . and compare.

TOPFLIGHT* MULTI-PURPOSE COPYSTAND

A rigid steel, tubular upright, 30-inch high, 1¼-inch dia., with a smooth-sliding extension arm. Will support all standard movie and still cameras. Ideal for copying . . . Titling . . . Photomicrography . . . Macro . . . general Close-up Photography and other uses.

The sliding arm raises and lowers for size adjustment, slides in and out, and revolves for horizontal and other angular positions. May be permanently mounted to any table, shelf or baseboard. (approx. ship. wt. 8 lbs.) Brand New! ONLY **$12.95**

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For Kine Exakta Cameras . . . set of 3 (7, 15 and 30mm), with adapters for camera and lens **$17.50**

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Note: These Tubes fit all models of Leicas, and can be used with Stewartry-Leica Copy Attachments, and other standard copy units.

For Contax Cameras Set of 3 (7, 15 and 30mm) Complete . . **$5.95**

Note: These Tubes are Leica threaded and can be employed for Contax Cameras ONLY when used with a Stewartry-Contax Copy Attachment.

MICROSCOPE ATTACHMENTS

For Kine Exakta Cameras **$12.50**

For Leica Cameras **$12.50**

BAIA Movie Action Editors

Standard Model for 8mm or 16mm Movies

Reg. $49.50
Special $38.88

A complete movie editing outfit consisting of an action viewer, with a 2¼ x 3 inch screen area, two 400 ft. capacity rewinds, and a semi-automatic splicer with hinged dry scraper, all mounted on a metal baseboard. Specify 8mm or 16mm. (Ship. wt. approx. 15 lbs.)

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Reg. $27.75
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For 2 x 2 (35mm) slides • 150 watts 5-inch lens • condenser optical system Slide carrier • Tilt adjustment. Approx. ship. wt. 10 lbs.

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Only a single exposure is necessary for either contact or enlarging. GREETEX Masks come in many patterns and sizes. Prices range from 65¢ up. Write for FREE descriptive literature.

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4¼ x 5½, Double Weight Only

	25's	100's	500's
AZO E (For Contact)	60¢	$1.84	$7.44
Kodabromide E (For Enlarging)	70¢	$2.24	

Specify matteo, L, Lin L, deckle or straight edge.

ENVELOPES

25	24¢	100	69¢
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MISCELLANEOUS

Kodak Embossing Guide	68¢
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The Famous Daylight Developing Tank for Sheet Film

PRICE MONOTANK "45"

Made to Sell for $9.90
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Uses standard sheet film hangers, any size up to 4 x 5 inches. Has light-tight cover with pouring well and emptying spout. Fills and empties in under 30 seconds. Capacity ½ gallon. Ideal for color.

(Approx. ship. wt., 5 lbs.)

Stainless Steel Hangers

Sizes: 2¼ x 3¼ — 3¼ x 4¼ — 4 x 5
Kodak, each . . 89¢ Wood's, each . . 65¢

Famous Make 5-Section

CHROME BRASS TRIPOD

$8.84 Value
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Let's Talk PHOTOGRAPHY

By BRUCE DOWNES

THAT photographers by and large have failed to keep apace of the manufacturers of color materials should not be a startling observation to faithful readers of this department. I have made the point at considerable length before. Aesthetically, color photography lags far behind black-and-white for a number of sound reasons. Important among them are: (1) that black-and-white photography, inherently unrealistic, permits far greater latitude for control and individual expression; (2) that photographers are either too busy, too lazy, or cannot afford to experiment with color photography; (3) its far more exacting technique appears to put anything like flexible control all but out of reach.

Because of the absence of color, black-and-white photographs are never seriously compared with the natural world. This enables the photographer to take wide liberties with the black-and-white image. The color photograph, on the other hand, being more realistic, is always compared with the world of nature; hence the difficulty of creating variations from what appears to be normal, even assuming that such variations were within one's controlled command.

The recent publication of the excellent new loose-leaf *Kodak Color Handbook*, which contains four new data books, stirred this subject up to the surface of my mind once again. The new handbook, although written in language perfectly understandable to the average intelligent photographer, is a reminder of the fact that as time passes photography becomes more and more involved with science. Both the chemistry and physics of color photography are far more complicated and exacting than black-and-white, which accounts for the fact that—in spite of the myriad brilliantly eye-catching color pictures being made today—one does not often encounter color photographs creatively so expressive and moving as black-and-white pictures by creative photographers can be.

This is probably because photographers working seriously in color are constantly striving to master the technical (scientific) processes by means of which they can come as close as possible to exact reproduction of objects in nature. The approximately 250 pages of the four data books comprising the new *Kodak Color Handbook* are devoted to this problem. It is an important problem, for it comprises the essence of color photography's technique. The *science* of color photography cannot be side-stepped. It must be mastered, for it is the means by which the color photographer must express himself in the color medium. He must learn to master accurate reproduction before he can consistently control deliberate deviations from normal accuracy. This should make it plain that the road to individual creative work is far longer in color than it is in black-and-white.

The road, however, is well charted so far as concrete technique is concerned. The manufacturers of color materials are doing their utmost to make the language of color clear, and the aforementioned *Kodak Color Handbook* is packed with enough solid instructions to keep a young, serious worker busy perfecting himself for years. The first of the four data books in this loose-leaf binder is worth the price of admission alone. It is called *Color as Seen and Photographed*, and is a stimulating discussion of the scientific principles and theories underlying color photography. It should broaden the horizons of the photographer and accelerate his progress towards mastery.

Here we begin to understand something about the complexities that enter into the color process, not only the involved chemistry of the process itself and its involvement with the wave theory of light, but the part played by human physiology and psychology in the perception of color. I have read no better short introduction to the principles and theories underlying color photography than is contained in this 68-page discussion.

The handbook is concerned, as it should be, with technical perfection. The objective on all levels is always the perfect reproduction of the original subject. This is the "perfection," that, as we have observed, must be achieved before the photographer can safely deviate from it in seeking his own individual expression. There is always the danger, of course, that technical perfection may become an end in itself as is the case with most of the illustrations in the data books, any of which could have been made by dozens of competent photographers.

There is a point at which perfection yields diminishing returns. The infinite aspects of mortal life are never perfect, and the polished color photograph in which the lights have been accurately placed for the correct ratio of highlight to shadow, the lens stopped down, the model posed for precise composition—such a photograph has had all the spontaneous life squeezed out of it.

The *Kodak Color Handbook* teaches the accurate reproduction of objects in nature, but the alert, imaginative photographer, while working to master the technique, will detect in the stilted illustrations the implicit hint that genuine creative work lies beyond perfection—that it is to be found, indeed, in a kind of spontaneous and harmoniously healthy imperfection.—▶

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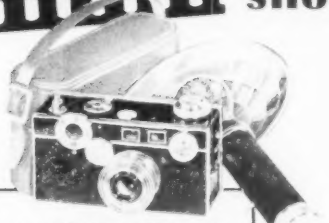

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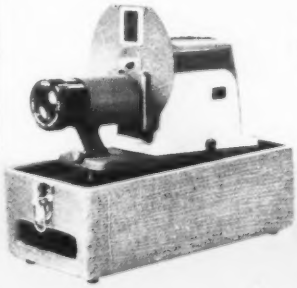

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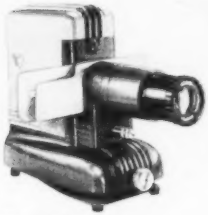

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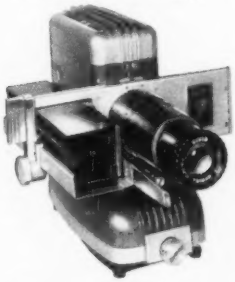

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The MAGAZINES

By the Publications Committee, American Society of Magazine Photographers

WILL CONNELL had the misfortune to be caught in a sand storm and later a thunderstorm, both in the *same day!* Although his holders were well protected, he said he is still spotting negatives. Dust was so fine it just penetrated everything. Even so, he speaks kindly of Texas (where he was photographing oil wells) because "you can chew up the highway at 75 or 80 miles an hour and see no lurking motor cops."

* * *

ROY PINNEY and about 20 photo-fans are back from a 5,000 mile tour of the West Indies. The zealous Brownie Rembrandts were able to photograph Conover model Phyllis Hunt everywhere they went. Roy will head another trip in January—to Central America, Mexico, Guatemala, Yucatan, Cuba.

* * *

ARDEAN MILLER off to Europe for two months' work for Pan American. Then to Switzerland for a Canadian Club story. Some way to spend a vacation—working. Or is it some way to work—taking a vacation?

* * *

RALPH CRANE, just returned from riding mules down Mexican canyons, is up in Montana using horsepower. Small joke around Los Angeles was that Ralph used his long legs for brakes when he wanted the tiny, squat Mexican mules to stop.

* * *

BOB LANDRY recently returned from Gallup, New Mexico, where he was working on location for Paramount during the filming of their "Ace in the Hole" opus. Bob said there were 1600 extras, the biggest number ever used on a location picture. Indians, townspeople, and Hollywood folks made up the group. He also tells a fantastic story about four lovely albino Indian girls whom he couldn't photograph because they were so well guarded by their mamas!

* * *

The word is that JAY EYERMAN'S new daughter, Cathy (slightly over six months) has a deep throated baritone laugh. Also red hair like her brother, Will.

* * *

Just in case you've wondered, "FREE LANCER: In Middle Ages and subsequently, one of those knights or roving soldiers, whose services were purchasable by any state or commander. A free companion, hence, a person who acts on his own responsibility without regard to party lines or deference to authority."—*Webster's Unabridged.*

* * *

ALLAN GRANT has completed what sounds like an ideal assignment—camping out with a family in the California High Sierra. In addition to showing the happy times, he was supposed to photograph

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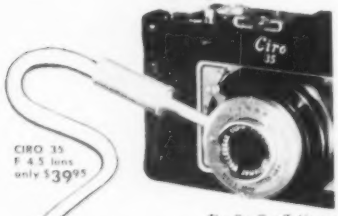

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the traditional mishaps. You know: poison ivy, bee stings, sprained ankles, etc. The family was very lucky—which made Allan very unlucky. What to do for those pictures? Finally, they were all traveling down a mountainside, and Allan began praying for a flat for the family car. Immediately, he heard the whistle of a tire going flat. The other car stopped and Allan hopped happily out of his car with camera—only to discover that *he* had the flat! He said the saddle sores he'd gotten from shooting a horseback sequence didn't help the tire changing a bit.

* * *

The photograph of Turkish cavalry which appears here was taken several years ago by DAVID DOUGLAS DUNCAN for *Life*. He is referred to in their July 24 issue as a "new star reporter now covering Korea." Although he has been on the staff four years, he's just now become a part of the heavenly firmament. Also in Korea is CARL MYDANS from *Life*'s Tokyo bureau. He, along with DUNCAN, has been receiving headline treatment for his picture-word coverage of the war. The

Duncan en route.

David Douglas Duncan made this shot of Turkish Cavalry several years ago. Now he's doing a thorough job in Korea.

handsome couple pictured are OTTO HAGEL and HANSEL MIETH who forsook full-time photography in 1943 for the sane life of a California ranch. The Hagels, too, were responsible for a recent distinguished picture-text—seven pages in *Life*'s June 26 issue.

The tiresome debate of the worth of pictures vs. words becomes meaningless in the reality of what these four reporters have been able to do. The Mieth-Hagel story of their return to their birthplace of Fellbach, Germany, after 20 years was an unique, highly personalized essay which could have been done only by them. Yet its success depended upon skills as well as personal experience—the writer's pen, the photographer's eye, combined with the reporter's understanding intelligence.

Just so, Duncan's report in the July 17 *Life* on what it felt like to fly in a jet fighter on a mission at 600 m.p.h. has to be read to be appreciated. It is absorbing, exciting, wearing, involving. It meets the real test of reporting skill: You, the reader, are a part of the flight too. And you'll probably finish the article limp, breathless. But not quite in Duncan's condition:

"Then as the plane leveled off and the vise began to release me I managed to slightly raise my head and saw that glittering gems of canary-colored liquid were

Otto Hagel and Hansel Mieth told a unique picture-word story of returning to Fellbach, Germany, after 20 years.

splashing down upon my knees and safety belt, where they lay shimmering. Others escaped through my clenched teeth and from my nose, and I thought to myself 'but these are priceless and very beautiful but should stay deep inside of me for they are what make me

Carl Mydans (third from left) is shown with Wilson Fielder, an unidentified French soldier, and Seymour Topping at an Indo-China fort in the Spring of 1950.

sick. Something secret must have broken and these are its melted parts.'"

CARL MYDANS is an old hand at reporting invasions. He was in Finland in 1939. Since the Korean attack, he's been reporting (sometimes alone, sometimes with *Time-Life* Correspondent Frank Gibney) the bitter story of the outnumbered footsoldier's war.

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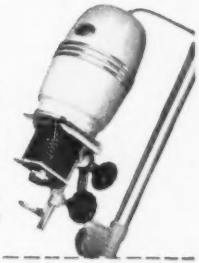

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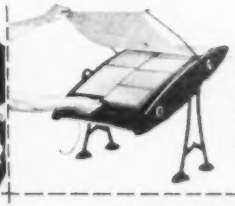

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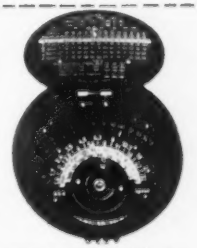

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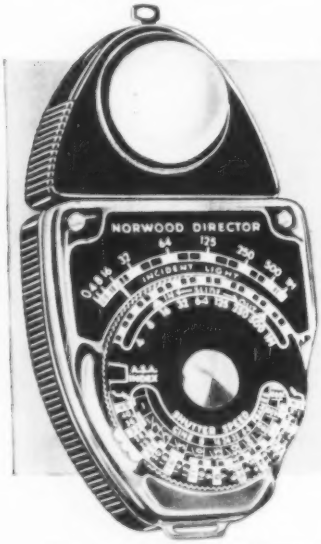

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TOOLS & TECHNIQUES

By NORMAN C. LIPTON

A round-up of recent developments and significant trends

Envoy "Band" Tank. From the tenor of articles and reader communications in the British photographic press during the past few years, it seems that film development agitation has become a major problem overseas. To eliminate the streaking and uneven densities that characterize the "plague," British equipment manufacturers have been designing their tanks with developer circulation systems tending to make the flow of solution as irregular as possible. One of these new British developing tanks has just reached the American market—the Envoy Band Tank, imported by Drew-West of New York.

The Envoy is an apron-type tank like the Leitz Correx. It comes in a 36-exposure 35-mm model using four ounces of solution and also in a 120/620 model with a 6-ounce solution capacity—each priced at $5.75. Solutions are poured into the tank by means of a built-in funneling device at the top, and removed by means of a narrow drain at the bottom which can be inserted into the mouth of any wide or narrow-neck stock-solution bottle. A knob which protrudes from the top of the tank serves as a lock for the outlet drain and has nothing to do with agitation even though it resembles the agitation "key" found on most domestic tanks. A small suction fan built into the tank body proper circulates solution throughout the tank when the housing itself is agitated. Three small legs on the bottom of the housing raise the tank from a flat surface to permit the use of a hot plate to control solution temperatures—the first time we have ever seen this feature in a plastic tank.

Gevaert's Diaversal paper for printing monochrome sepia enlargements from positive color transparencies will soon be out. But it will be known as Revere Diaversal Paper, a component of the Revere Enlarger-Viewer Kit which, in turn, comes with the Revere Camera Company's brand-new 8 and 16-mm Cine Graphic Enlarger-Viewer outfits. Between a preview peek at Revere's 1951 cine equipment brochure and an early story on the subject in Jacob Deschin's *Camera Notes* department of the *New York Times* for August 27, 1950, we learn that: (1) Revere will be exclusive U.S. distributor for Diaversal which is manufactured by Gevaert in Belgium; (2) Diaversal processing chemicals are being prepared from Gevaert formulas by an American company; (3) Diaversal paper will be available separately in 25 and 50-sheet packages—at 90 cents and $1.50 respectively in the 2½x3½-inch size and, $1.50 and $2.50 in 4x5; (4) chemical kits will cost $2.50.

The Revere Enlarger-Viewer kit includes a yellow-green darkroom safelight, three plastic trays, a set of Diaversal processing chemicals, and two packages of Diaversal paper. The two Revere Cine Graphic Enlarger-Viewers are the Model E 208 for 8-mm cine frames, at $47.50, and the Model E 216 for 16-mm frames, at $49.50. Both outfits make use of standard cine lenses and incorporate a hand cranking mechanism for rapidly moving the film in either direction.

The unique characteristics and structure of Diaversal paper were outlined in the T&T department of the August 1949 and March 1950 issues of POPULAR PHOTOGRAPHY.

The Kodak Color Handbook is a set of four Kodak color data books, all brand-new, furnished in a sturdy and attractive metal-ring binder. Intended for professional and advanced amateur color workers, the new handbook consists of 258 text pages larded with more than 100-full color illustrations of equipment setups, theoretical color concepts, and results. Included in the $4.00 cost of the volume is a supplementary newsletter service which will inform registered handbook owners about important new developments in the field of color and also about new publications as they come out. In view of the rapid progress being made today in color equipment, materials, and methods, this progressive "loose-leaf" approach to the subject is wonderfully practical. Bound volumes invariably go out of date within a short time of publication.

Data books in the current edition of the Kodak Color Handbook have the following titles and general content:

Color As Seen and Photographed—an exhaustively illustrated description of the nature of light and color; how the human eye perceives and reacts to color; how Kodak color materials record and reproduce color, and a general discussion of practical problems that the experienced black-and-white photographer must solve in order to master color. (The section sub-titled *Systems of Color Specification*, with its descriptions of the Munsell and ICI systems is as lucid an introduction to the "anatomy of color" as will be found anywhere.)

Color Photography Outdoors—a thorough analysis of the practical problems that confront the outdoor color worker with emphasis on the details of lighting and contrast control and exposure determination. Scenic, illustrative, and architectural photography receive extensive treatment, while other aspects of outdoor work are rounded up under "special problems."

Color Photography in the Studio—a thorough shake-down of the illuminants, lighting techniques, and the myriad details that make for successful indoor color work—with the emphasis on current practices in the nation's leading studios.

Kodak Color Films—a description of available Kodak color materials; detailed instructions on handling and storage;

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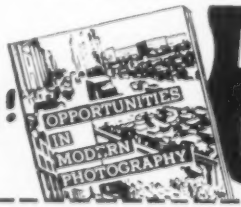

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technical data; standardization of speed and color balance; color compensating filters, and processing problems.

The data books in the Color Handbook will not be available separately for the indefinite future. A portion of their content will be found in the Kodak Data Book *Ektachrome and Kodachrome Professional Films* (Third Edition, 1947) and the new data book *Kodachrome Films for Miniature and Movie Cameras.*

Quick Reference Rangefinder. You don't have to take your eye away from the sighting window to read the distance scale of the Watameter rangefinder now being imported from Brunswick, Germany, by Alfa Photo Products of New York. The distance readings appear in an illuminated frame to the left of the superimposed images of the subject in the sighting window. The image superimposition and the corresponding scale settings are controlled by a knurled wheel on the outside of the rangefinder housing. The Watameter is being priced at about $10 and comes in foot and metric scale models. The unique arrangement of the Watameter does a lot to speed up the use of scale-focused cameras. It is particularly valuable for working out depth-of-field relationships and flash guide numbers because it eliminates the necessity of consulting the finely engraved distance scale that usually appears on the edge of the "focusing wheel."

Exit "Color Temperature!" A recent news release from the Photo Research Corporation of Burbank, Calif., describes a new model of the Spectra Color Temperature Meter now in production. The new instrument, known as the Spectra Three-Color Meter, differs from the early one in that it measures the proportionate amount of all three primary colors of light in the illuminant (red, green, and blue) instead of red and blue alone. In addition, the new meter expresses its results in terms of a log index (the blue-to-red and green-to-red ratios of the light source) rather than in Kelvin degrees, which makes the selection of filters to adjust a particular color film to the illumination at hand a lot easier. When you work with Kelvin degrees, a given filter will correct a relatively low color temperature light source much more than it will a high-temperature source. Under the new Spectra system, each correction filter supplied by the manufacturer alters the measured "Spectra Distribution Index" a given number of units. Proper color balance is achieved when the measured Spectra Distribution Index of the light source plus or minus the correction value of the Spectra correction filters equals the listed "Spectra Sensitivity Index" of the color film to be used.

The thinking that went into the development of this new meter is detailed in a long dissertation in the July 1950 issue of the *Journal of the SMPTE—Effects of Incorrect Color Temperature on Motion Picture Production*, by Crandell, Freund, and Moen of the Photo Research Corporation. Though long-winded, the approach seems reasonable and sound and should

(*Continued on page* 148)

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WARD PEASE DISCUSSES

EXPRESSION IN MUSIC AND PHOTOGRAPHY

IN THINKING about this hobby of ours it is frequently helpful to draw parallels from other activities. I recall something I once heard in relation to music and there is a similarity of approach which can be applied to pictorial photography, or any other form of serious photography for that matter. I was listening in on the rehearsal of a university orchestra, and some incident or other was the cause of a lecture on the subject of tone quality.

The conductor pointed out that, while instrumental technique could be acquired by assiduous practice, tone quality was something that came from within the player rather than from the instrument. Until the musician was able to recognize the difference between good and poor tone, and sincerely seek to obtain it, he would never get it, no matter how well the instrument maker had done his part. The first step toward getting good tone quality was therefore to learn to recognize it when it was heard. How could it be otherwise? If a good tone was produced by accident and not recognized, there would be no knowledge of how or why it was produced, and it would certainly not be possible to reproduce it.

To me this is an exact parallel to the statement that it is impossible for a photographer to make a better print than he himself can appreciate and understand, except by pure accident. This thought can be applied with equal force to all three of the basic elements of a superior picture—technique, composition, and the idea content or imaginative element of a picture.

To achieve a high level of technical excellence it is necessary to know what a high quality print looks like and to know how such a print differs from one which falls short of this ideal. It is necessary to be able to see the difference between blank, blocked highlights showing large areas of clear or foggy gray paper and the delicate nuances of shading which can be found in highlights kept under proper control; between dull, dead shadow areas and luminous shadows revealing the niceties of detail which should appear there; between flat, mushy middle tones and brilliant contrasts; between muddy, rusty or uneven print color and the rich beauties of tone and color that the paper is capable of giving. When the print maker can appreciate these differences, he is in a position to do something about them. The same materials and techniques are available to all.

Similarly, with composition one must be able to see the difference between divided interest and unity, between scattered attention and properly placed emphasis, between incongruities and a harmonious whole, between lines which draw your attention where it should be and those which take it out of the picture, between a pleasing pattern of light and shade and one which offends.

In these matters of technique and composition the parallel with the musical analogy is good; when you get into the business of putting some imagination into your work it gets even better. More than anything else, this element must come from within the photographer. Here is where he can begin to express his own personality by concentrating on the type of subject matter with which he is best acquainted and to which he can give the most sympathetic treatment. When he is working in full harmony and understanding with familiar subject matter he is in the best position to appreciate what is a good expression of that material and what is not. It is when these circumstances, which must certainly come from within the photographer, are at their best that the most expressive and imaginative results are to be obtained.

One of the best ways to achieve this appreciation of good pictures is to study those which have been judged to be good as evidenced by their acceptance in a first rate salon or publication in a good magazine or annual. If an analysis is given with the picture, so much the bet-

(*Continued on page* 185)

Excellent harmony is demonstrated in this picture by Ward Pease. It has a good salon record, was purchased by an art museum, two calendar companies, and two magazines.

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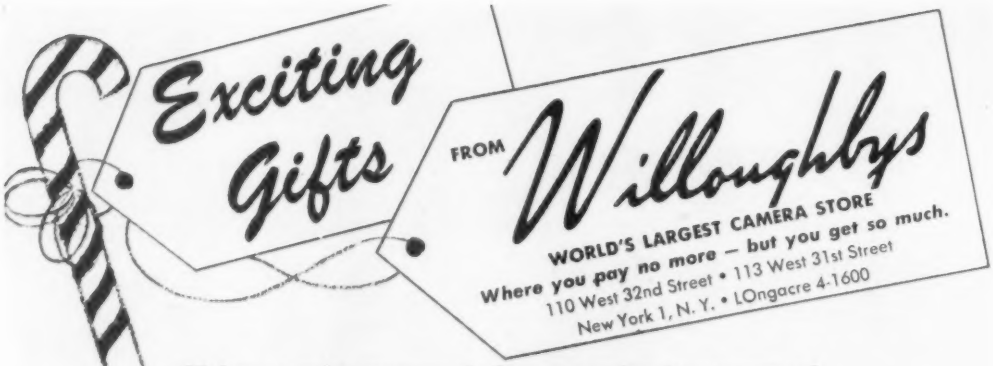

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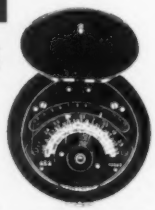

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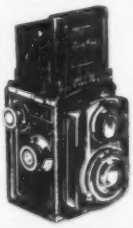

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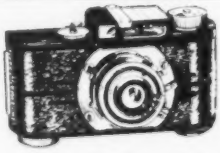

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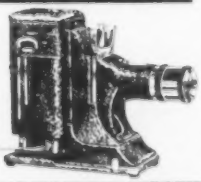

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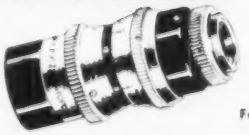

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CANDID SHOTS

HERE, at last, is the special issue containing the big news you've been waiting for—the lucky prize winners in the $25,000 POPULAR PHOTOGRAPHY 1950 Picture Contest. Also featured on the following pages are reproductions of many of the winning photographs in color and black-and-white. Once again a group of capable camera owners has achieved recognition for outstanding pictures in the most exciting competition of its kind. To each successful entrant we extend our heartiest congratulations and best wishes for continued success in photography. Also, our sincere thanks to all who participated in the contest.

This year's judging was no easy task, and the winners were selected only after many hours of study and elimination. Entries were sent in from all over the world, and it is estimated that the number of pictures submitted was far in excess of the total received in previous contests. Another factor that made final decisions difficult was the general high quality of the work. Many fine photographs still remained in the running after numerous eliminations, making it necessary for the judges to evaluate each carefully. Subject interest, picture taking technique, and print quality all were taken into consideration. To all contestants who did not win, better luck next time. Turn to page 56 for the start of the special picture section, and to page 129 for the complete list of prize winners. Elsewhere in the issue are notes on the pictures and a feature introducing the photographers who won the top prizes.

IF YOU live in or near New York City be sure to see the brilliant display of prize-winning pictures of the 1950 POPULAR PHOTOGRAPHY Picture Contest now being shown in co-operation with Eastman Kodak Company at its new photographic exhibit and information center on the east balcony of Grand Central Terminal. The show will be open to the public until November 30, after which it goes on tour.

A simultaneous display in the New York area is being held in the windows of the world headquarters of International Business Machines Company (IBM) at 57th Street and Madison Avenue. The use of these spacious windows covering approximately 100 feet on 57th Street and 100 feet on Madison Avenue will enable more people than ever before to inspect the top contest winners of the year. Here is an opportunity to view the outstanding work of both amateur and professional photographers from every part of the world. These exhibitions represent the cream of over 53,000 entries, which were submitted to the 1950 contest.

YOU'LL be interested to know that leading prize winners range from teenagers to 70, and that the septuagenarian never before entered a picture contest. One of the top pictures is by a man who has spent 27 years on the photo staff of one of the nation's leading newspapers; another is by a youngster who started using a camera less than a year ago. A stockbroker, an army colonel, and a housewife are among the winners. So are a butler and a stock room attendant.

It's worth traveling many miles to get a look at this remarkable exhibition, so make plans to visit the Kodak Colorama at Grand Central Station and the IBM windows at 57th Street and Madison Avenue. Here's a chance to see salon quality prints made from the winners' own negatives and color transparencies.

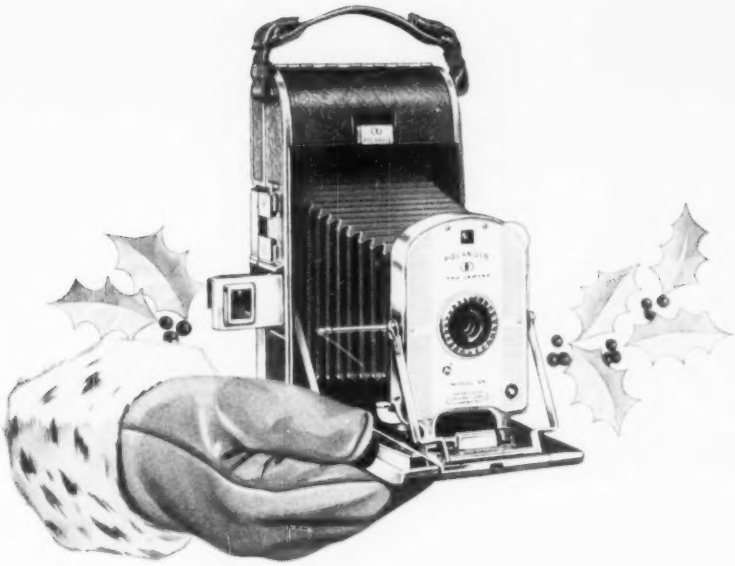
For those of you who cannot see the show in New York, watch for its appearances in other parts of the country. Check the schedule of POPULAR PHOTOGRAPHY Traveling Salons in each issue during the coming months for this information.

WELL, another year has rolled around and almost reached its close. Store windows and counters herald the coming Christmastide and remind us once again to do our shopping early. They also remind us to get busy and start work on our photographic Christmas greetings. If you've never made one, or are still trying to think up a good idea for this year, read the article on page 44. It will provide you with numerous suggestions that you can apply to your own personalized greeting card. Incidentally, the illustrations are prize winners in the 1949 Christmas Card Contest. Yes, POPULAR PHOTOGRAPHY is having a 1950 contest, and will award bigger prizes this year—$25 for each of the ten best cards received by the Christmas Card Contest Editor on or before January 10, 1951. Be sure to put us on your mailing list.

ONE of the finest private photographic collections ever to have been made is being given to George Eastman House, the international photographic center at Rochester, N. Y., by Alden Scott Boyer of Chicago. Among the countless books, old prints, and pieces of equipment of historical value are many rare items which Boyer acquired from all parts of the world. Beaumont Newhall, curator of Eastman House, has spent weeks in Chicago cataloging the material and preparing it for shipment. In building this great collection and making it available for study and research, Mr. Boyer has made a memorable contribution to this and future generations of historians, students, and workers in the field.

Frank E. Fenner

Watch the birdie! Did you know a stuffed "birdie" was standard studio equipment back in the 1870's? Here Alden Scott Boyer demonstrates one from his fabulous photographic collection, which is being presented to George Eastman House, Rochester, N. Y. photo center. His unusual camera was designed to take four pictures at one time.



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EVERYBODY'S TALKING about the sensational camera that develops and prints its own crisp, clear pictures in 60 seconds — and everybody wants one!

WHAT A THRILL this Christmas for the whole family to enjoy those once-in-a-lifetime pictures right on the spot! The tree . . . the children . . . the family party! Here is photography as it *should* be. You'll get some of the finest pictures you've ever taken . . . to enjoy while the fun is still going on . . . to treasure for years to come.

NEW BLACK AND WHITE FILM — In brilliance of highlights and depth of shadows, the new black-and-white pictures challenge comparison with expert darkroom production. Contrast can be controlled simply by changing the development time in the camera.

PICTURE-IN-A-MINUTE PHOTOGRAPHY now offers all the advantages of seeing your finished pictures as you take them, plus superb quality . . . plus the pleasure of working up particularly fine shots in your own darkroom. Whether amateur or professional . . . beginner or salon exhibitor, visit your dealer and arrange to try this new kind of photography free, without obligation, in your own home or studio.

For new free booklet, "36 WAYS TO MAKE THE MOST OF 60-SECOND PHOTOGRAPHY" write Polaroid Corporation, Dept. P-30, Cambridge, Mass.

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SNAP IT! A single setting adjusts both lens and shutter speed. Simply focus and snap! It's easier than most cameras. Then pull a paper tab and . . .

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ENLARGE IT! Enjoy negatives for darkroom use as well as those you can be through your camera alone . . . for making your own extra prints and enlargements.

SHOW IT! You will be amazed at the fine quality of your enlargements. (Your camera store will also make enlargements for you.)

"An Assistants' Life for Me!"

Says MAX JAIKIN

. . . who revels in his myriad tasks as cameraman, model, carpenter, prop man, processing technician, and clairvoyant for top-flight illustrator Alan Fontaine

Clowning for baby smiles is a Jaikin task. He was proud of the laugh this last-resort get-up evoked—'til he saw his picture.

Brushing a model's hair is not an unusual job for assistant Jaikin. Fontaine simply shouted "Hold it" and snapped this.

WHEN Alan Fontaine's stylist, Ruth Krupnick, announces, "There's a beautiful new model here," I'm supposed to drop what I'm doing, go to the reception room and interview her—unless Fontaine gets there first. (He has longer legs but I have a faster getaway.) Then I have to study her features and bully Ruthie into making an appointment for a test shot.

Now if this were the only chore I had to perform because I'm the right-hand man of a top-flight illustrator, my job would be routine. But instead, my day is packed with enough variety to satisfy anyone yearning for diversity. One day we were photographing Jinx Falkenberg. I had met Jinx at a U.S.O. affair while I was in the army and we were gabbing about army food while I adjusted the lights. Fontaine noticed that she turned her head and eyes in my direction instinctively and he hardly needed to direct her at all in posing. Then and there he decided to photograph all celebrities that way. He likes spontaneous expressions and poses and he dislikes to order his subjects around. He promptly stuck me with the job of talking to all the stars who come in to be photographed. While he does nothing but shoot the picture, I labor over conversation with Madeleine Carroll, Joan Crawford, or Myrna Loy.

When I try to tell anyone how hard I work to talk Janet Blair into position, he looks at me incredulously. A banker once offered to change jobs with me when I explained my daily routine. But when he grew insistent about it, I had to tell him that he wouldn't last a day. A banker just hasn't the right temperament for the work. The main job of an assistant is to anticipate the photographer's needs. If a banker were to offer money to his depositors before they asked for it, they'd commit him to a place where

he could give away stage money.

Can you imagine what a banker would say if Fontaine told him, "Get me a castle!" When I was told that, I wondered for a minute if the environment had affected the boss. The studio does look something like the Armory Hall at the Metropolitan Museum of Art. There are several suits of medieval armor on pedestals. Colorful silk tournament flags jut from the walls, and there are swords, pikes, and other antique weapons wherever you look. But I soon found out that he wasn't getting medieval-happy. He needed a bona fide castle as a background for a picture.

In New York, we have soot in the air, not castles. I referred to the architectural material in the public library and learned that there was a real castle on upper Long Island. When I got to the town, I tried to find the owner. No one seemed to know his name. Finally I went to the state police. A trooper gave me the name and a warning. "If you go on his

Fashion shots and experimental studies occupy Jaikin's off-duty time. (He gets the experience and the models get portfolio pictures free.) In the photograph, above, Jaikin used reflectors at the camera to bounce natural light onto the face and figure. For the delightful "twins" shot, left, he had the girls don hooded cloaks—one reversing the ensemble.

property, he'll have you arrested!" Should I face Fontaine without a castle or spend a few days in jail—that was my problem. As I put my finger on the bell, a caretaker sprang out of nowhere. "You can arrest me later," I told him, "but first let me talk to the owner of the castle."

To the owner I explained that Fontaine was a collector of antiques (I wasn't kidding either) and that he needed a real castle. I kept talking fast until the man said, "Tell Mr. Fontaine to write to me and confirm what you've told me."

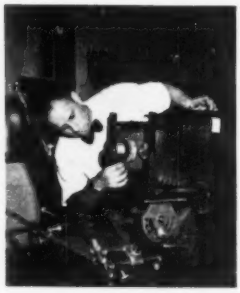
"Now you can take me to jail," I said to the caretaker happily, but he let me go. The picture turned out beautifully and I soon forgot that I'd almost become No. 129,000, County Jail.

After I spent three days searching for a real Vene-

DUTIES OF AN ACE ILLUSTRATOR'S ASSISTANT ARE VARIED AND EXACTING.

Jaikin confers with Ruth, Fontaine's stylist, on choice of model—then secures props.

He dresses set, lights it, and discusses meter reading with Fontaine (back to camera).



Shutter and lens get final adjustment from Jaikin while Fontaine directs the model.

Developing and printing are no strangers either. Here he dodges a print in enlarging.

Relaxing in a setting of modern studio and medieval hardware props after a hard day, Jaikin is photographed by Ralph Brooks. Despite the strenuousness of his many chores, Fontaine's assistant is enthusiastic about his job and loves to work with his creative boss.

tian gondola and brought back the very ship that Robert Browning and Elizabeth Barrett had used on their honeymoon, I expected a nice round of applause. Fontaine was as excited as I was about my discovery. The client looked it over and said, "It's not the type!"

Finding a castle or gondola isn't always easy but getting a big laugh from a baby too young to appreciate Hope's latest is even harder. It's up to everyone in the studio to amuse the baby and we don't care how silly we look while we're doing it. One baby didn't find us a bit amusing although we kitchy-cooed, blew up balloons, and banged on dish pans to please him. When I put on his mother's new flowered hat, he let out a yak that would have made Jack Benny proud. I was proud too—until I saw a picture of myself in the hat.

"Human distractors" is Fontaine's name for the people who make babies laugh or cry. We all take turns at it. Sometimes Fontaine does the funny stuff while I shoot the picture. The way we all work together makes everyone's job easier. Our studio may not be unique, but I'd like to tell you a typical story and let you draw your own conclusions.

Fontaine was asked to photograph the launching of a ship at Quincy, Mass. This is a little different from the type of work he's known for, so he took it eagerly. He likes to do things that are different. The main shot was the

FOR INSTANCE . . .

Retoucher Lionel Martin is instructed on changes to be made in a color transparency.

splash when the champagne bottle breaks at the moment of the launching. My boss found a spot where he could shoot head-on at the sponsor, the bottle, and ship. I wanted another point of view so I climbed a railing and got onto a specially constructed platform. When the sponsor swung the bottle, we both made our shots. Fontaine was a little ahead of me so he got more breakage on the bottle; I got more splash on the champagne. He studied both pictures after they were developed. "Mick," he said, "your shot is terrific!" He sent the picture I had made to the client.

Another unique feature of the studio is the musical background. All of us love music and we have a record player that starts spinning when we open up shop and keeps going until we lock the front door at night. While Fontaine, Ruthie, and I favor the classics, we can offer visitors and models a choice of anything from Toscanini to Frankie Laine.

To work for a photographer whom you admire and like is a break, but funny hats and pretty girls notwithstanding, an assistant has plenty to do. A typical day involves electrical work, modeling, plumbing, carpentering, and clairvoyance in addition to pho-

(*Continued on page* 214)

Problem of showing a fashion model in "casual" clothes is solved by Jaikin in this manner—for practice. Props are from studio; flowers give added feminine note.

portraits Plus

By M. RICHARD MARX

Illustrations by the Author

Let an attractive background or novel foreground enhance your pictures and create added interest in the subject

Two mounting boards were used by the author to provide an artistic frame for his subject, who held the cards at an angle.

Added interest in the sparkling portrait below results from using a woven mat for background and keeping it out of focus.

Portraits of men can be made more interesting, too. Here the same background mat gives this picture a "plus" quality.

ONE school of portraiture insists that a plain background, usually black, white, or an off-white, should be used so that nothing will detract from the subject. However, with good taste you can employ interesting backgrounds to produce attractive portraits that are more than mere likenesses. Foregrounds, too, often are restricted to plain, unassuming objects if any are used at all. But again, with a little extra thought, one can utilize appropriate props in the foreground to create distinctive and unusual pictures.

There is little expense involved in this variation from the generally-accepted mode in portraiture. It requires only a little thought, a creative spirit tempered by good taste, and the knack of making much out of little. You don't need a large studio or lavish lighting equipment, and your regular camera can do the work nicely. To place your pictures in the "portrait plus" category, simply use appealing foregrounds and backgrounds to give them added meaning or innuendo.

Sources for ideas and material to use are all around you. It is wise to study the illustrations that appear in magazines and newspapers. These need not necessarily be photographic, for many sketches and drawings contain suggestive material. Take a walk in the principal shopping districts periodically and study the window and interior store displays. Correlate the objects you see used to enhance a setting with some particular person or type of dress, and then fit them into your mind's imaginary pictures. Study the effect that light has upon the object or objects, and determine how you might carry this effect to your particular subject at home. The store display may even offer some suggestions for a pose. Try browsing through local second-hand stores where many interesting little objects can be purchased at a minimum cost; cover the novelty stores, and don't fail to check on suitable items that may be borrowed from friends. Whenever you travel and window-shop away from your home town be sure to observe all that you see. Before you know it, you'll come back with plenty of new ideas.

While many persons prefer an ordinary-lighted background, there is much to be said for something a bit unusual. The background can help create the mood of the picture or increase its beauty and remove it from the commonplace. To begin with, investigate the possibilities offered by patterned wallpaper. Certain patterns are very adaptable to certain types of pictures. A glamour shot of the girl across the street might be tremendously improved if she is posed against a striped background and recorded with low-key lighting. The background can be kept slightly out of focus, and if lighted with a spot its dramatic effect can be heightened greatly. A woven mat can serve admirably as a background and is particularly suited for portraits of men since it can be made to give a rough and rugged effect. By focusing on the subject's eyes and shooting with the lens wide open, this background, too, can be subdued for use with feminine subjects.

If you frequent your local travel agency you may be able to pick up a couple of travel posters. In a portrait where the subject wears an appropriate costume, such a poster will lend an atmosphere of ad-

A glamorous touch was added to this provocative portrait by employing a leopard-skin drape. Inexpensive cloth prints of animal pelts will take the place of the real thing.

Good taste in choice of background and lighting resulted in this fine portrait with appeal. Marx used striped wallpaper to accentuate his dramatic, low-key shot.

venture to the finished print. There is no reason why the chenille bedspread cannot be pressed into service, too. It is soft, and may be draped over a chair or hung against the wall. Animal skins have long been used in glamour portraiture, the leopard and bearskin being foremost. Materials with patterns of leopard and zebra pelts can be purchased in drygoods stores and of course do not involve the great expense of real skins. Be sure that your subject's apparel is in keeping with the background and the mood you are creating. If it is desirable to keep the background

A travel poster deftly placed in the background adds atmosphere to portraits like the one below, in which the subject is wearing appropriate street ensemble.

Figured lace draped over a photo mount that was held on slight diagonal by subject provides a dainty and feminine foreground.

sharp, simply move your subject closer to it and stop down until the depth of field will cover both. Of course, the closer you place the subject to your background the more difficult it will be to light the portrait so that unwanted shadows will not spoil the effect you want to achieve. On the other hand, these shadows may be used for emphasis or to lend a more dramatic note to the finished picture. When using a background with an elaborate pattern, it is most desirable to have the subject wear plain clothing so there will be no clash between the two that will detract from the picture as a portrait.

Foreground material probably is even more important and requires more delicate handling than the background. If it is not used correctly it may dominate the picture and the intent at portraiture may be lost. The foreground material should be kept subordinate, either by lighting, position, or size. It can be used either to frame the picture, as an adjunct in posing the model, or to intimate the subject's personality or vocation.

Framing a portrait, as in all pictures, tends to hold the interest where you want it. Many ideas for such framing will come to you through the sources already mentioned. One item that most photographers always have handy are mounting boards. These are light in weight and may be held at any convenient angle by the subject herself. It is possible to drape one of these boards with a piece of lace or other material. By holding it at various angles in the foreground, unusual effects can be achieved. A piece of driftwood or an old branch of a tree—easy to pick up at the beach or in the country when you are out riding—serves admirably in the foreground and also gives a nice display to the hands.

An unusual candle lamp was placed casually in the foreground to enhance this portrait study of lovely Jane Nigh, young Hollywood actress, and to lend compositional balance.

There's no limit to the number of possibilities in props for portraits. If your subject has an interesting hobby, it probably will suggest some ideas. You can show a golfer polishing the head of a club, or holding it under one arm, to add an authentic touch that will make the portrait more personal. In posing a woman who collects antique glassware, what could be more natural than to show a piece or two from her collection? They can be held by the subject or placed in foreground or background.

Small objects placed in the foreground often will provide a reason for the pose. It may be something on which the subject can focus her eyes, something she can touch with a hand, or something that will provide the meaning for the expression on her face. A little lamp, a delicate knickknack, a small plant, or almost any ornament can serve this purpose. It should be an object whose tone will not be too bright to become distracting and one that is not so bulky as to obscure the subject. As with the background, it may or may not be kept in sharp focus, though if it is a small object it probably would be better to hold it sharp. A good practice is to focus on your subject's eyes and let the foreground object be the secondary consideration. For less sharpness, open the aperture.

Now, with the background selected, an object chosen for foreground use, and the subject dressed to fit the occasion, your own originality can be subtly injected into the portrait to produce that different and refreshing feeling for which every photographer strives. Your subject will feel the personal touch in her portraits. And because of your simple study and application in the use of foreground and background, your shots will make a hit with all who see them.—

Christmas Greetings – with your camera

WHEN the postman on his appointed rounds starts bringing Christmas cards to your home —any day now—you'll start to compare your own greetings with those you receive where effectiveness is concerned. As a photographer you'll rate the photographic Yuletide messages alongside the batch on which you labored. Or, if you failed to make your own cards this year you'll wish you had, and you'll set your sights on the 1951 output.

It's well recognized by now that there simply isn't a greeting which can come close to the photographic variety for novelty and personal identification. Relatives and friends alike will point with enthusiasm to such cards, even as we ourselves do each year. Perhaps the outstanding feature of a photographic holiday greeting is the fact that only you can send it. It can't be duplicated. And from another view-

Seasonal photo of the Robert Boettgers' son is mounted on a folded sheet of buff card stock. The message is written inside with pen and ink, giving the greeting a truly personal touch.

Front of Frank Pomeroy's French-fold card shows youngsters "looking in at Christmas." Second page bears lettered greeting. Third page shows same children "looking out for Santa." Studio setup (right) is described in the text, was not difficult to put together.

Send a unique holiday message to friends and relatives—a photographic card of your own design and making. These ideas will help you plan one

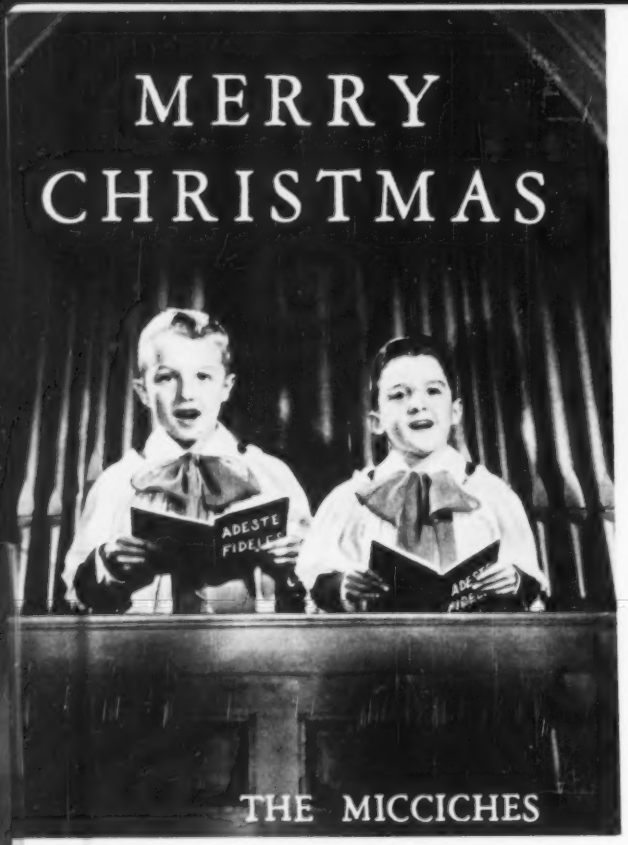
Simple yet effective, the Norman Rasmussens' card is based on a snow scene of fine quality. Oversized lettering was placed on an 8 x 10 print. A reduced copy negative of this was then printed on deckle-edged stock.

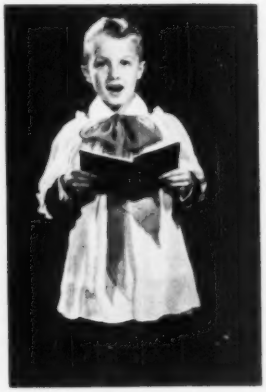
Movie motif was used by Ron Laidlaw. Theater marquee shot was partially blanked out, then re-lettered. Family pictures and artwork provided rest of material for the paste-up, which was copied for contact printing, two up on 8 x 10 sheet of paper.

Ingenious "pop-up" variation of French fold was devised by Philbrook Allen. Tricky folding and very careful cut-out work cause picture of the baby's head to pop up at the viewer when this card is opened. Ad-type stock used makes durable creases.

popping up to wish you a MERRY CHRISTMAS

Madeliene, Phil, + Jeff





Evolution of R. Samuel Micciche's finished card (left) is shown in pictures across top of this and facing page. His first step was to make separate portraits of his two sons dressed as choir singers.

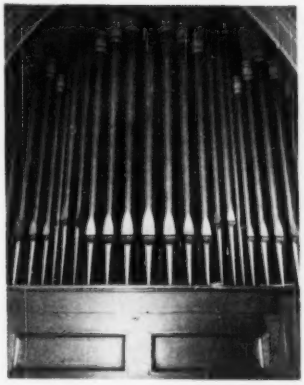
point, the production of such cards is entirely likely to raise your own general photographic ability considerably. In making these cards you are apt to experiment with techniques you've never fussed with previously, and in nine cases out of ten you'll end up by mastering the technique employed.

As all of us know, effective photographic holiday greetings can range from elaborate masterpieces down to unpretentious but dignified products which are easy to make. It's up to you to choose a type that is within your ability to execute properly. Some of the simplest of them pack the biggest wallop. And some of the most ornate will appear mediocre at best if poorly done. This is not to say that you should oversimplify your approach because of an unwarranted fear that you aren't up to better things.

"The First Noel" *The Gerald Snyders*

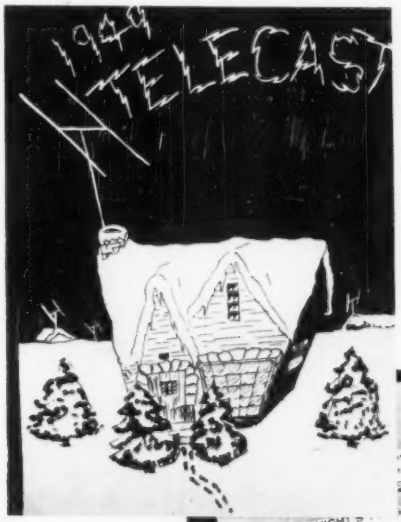
Charm characterizes the Gerald Snyders' selenium toned figurine study with silhouette background. Picture and message were printed at once by projection.

Humorous fantasy is the keynote of the unusual greeting devised by Philip Morse. Excellent technical quality is no small factor in this card's success. Note how the reverse lettering is legible without being distracting.



Next, he went to the church to photograph the organ pipes and rear of the console. This print was cut in two pieces to provide background and foreground material for cut-out figures of the choristers.

Cut-outs of boys were placed 2 inches in front of pipes, about ½-inch behind console panel. This setup was photographed to make a copy negative. Text describes how lettering was applied.

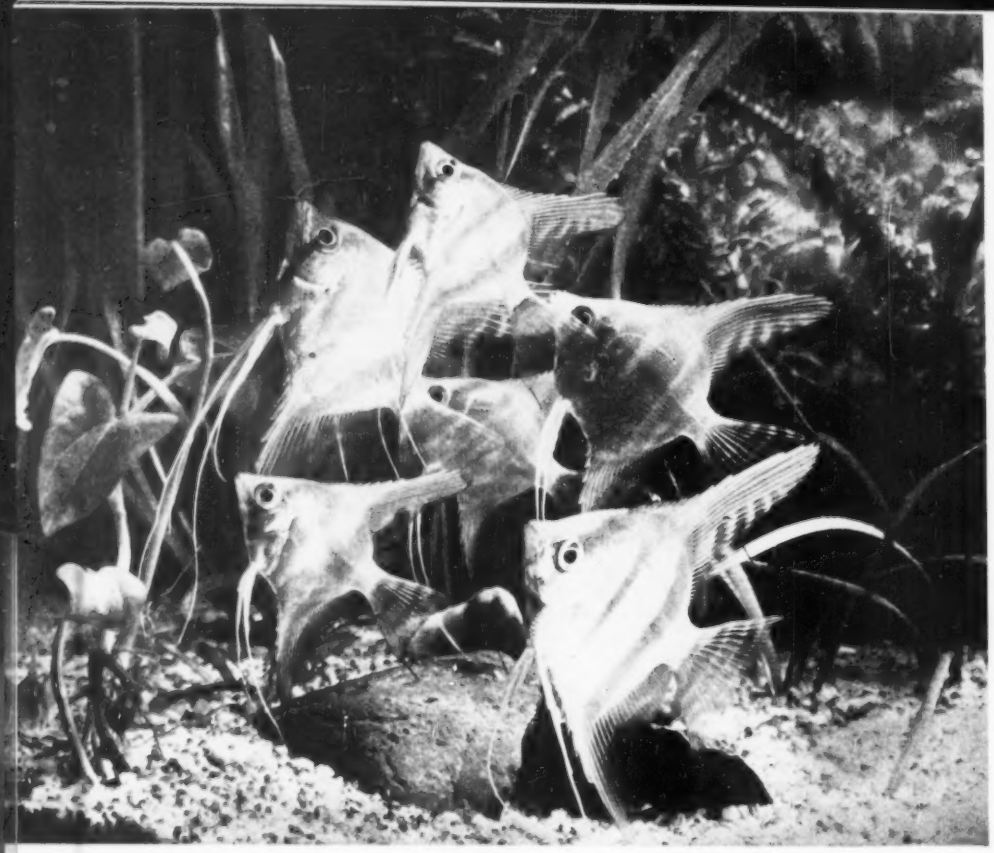


Try something a notch or two more intricate than you think you can handle, and you'll be pleasantly surprised.

To assist you in planning the job, let's consider the ten entries which POPULAR PHOTOGRAPHY'S editors picked as winners in their 1949 Christmas Card Contest. The makers of these cards had fun producing them. Most of them saved money by turning out their own work. And all of them put a unique message into each home where one of their cards was received.

The growing popularity of television was reflected in the 1949 entries. Many "TV" cards were submitted, and from these two were selected among the ten winners. One of the trickiest to make was that turned in by Theodore F. Luga of Chicago, Ill., who did a good job with a French fold and some cut-out (*Continued on page 225*)

Television is growing popular as a greeting-card theme. Theodore Luga showed real ingenuity in making a French-fold card embodying a disk with channel numbers indexed to "screen images." See text for details of how this elaborate greeting was created.



Group of Angel fish were recorded by Sam Levitz with exposure of 1/250 second at f/16 on fast pan film. He used a single peanut flashbulb for lighting. The short focal length lens on his camera enabled him to get sufficient depth of field for this close-up.

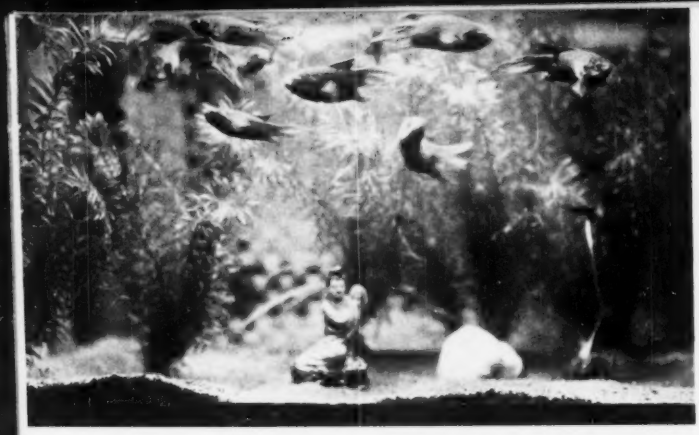
HOW TO PHOTOGRAPH YOUR *Aquarium*

By NAT McKELVEY

Give your tropicals or goldfish a chance to parade before the camera. You'll find them fascinating subjects, and they will reward you with interesting pictures

YOUR home aquarium is a source for many unusual and interesting pictures. More and more amateurs are finding that multi-colored tropicals and common goldfish can provide refreshingly new material for their cameras. There are some do's and don'ts in photographing fish, so let me help you get started on the right foot by relating the experiences of three professionals who photographed aquarium fish as assignments and who thus have arrived at a sound shooting technique which you can use. Whether your camera is a miniature, reflex, press-type, folding, or box-type, you can use it to make successful pictures of your own fish. Furthermore, you even can get reasonably good fish pictures in color.

The primary problem with the aquarium is lighting. First choice is flash; the second, floods; and third, daylight. For a small tank with one, two, or three fish in it, professional Tad Nichols finds that a single peanut flashbulb in a reflector placed about three inches above the water gives adequate illumination. With this setup you can focus from three to four feet away, set your camera to shoot at f/45 at 1/100 second, and get a clean picture on a medium speed panchromatic film. If your (*Continued on page* 146)



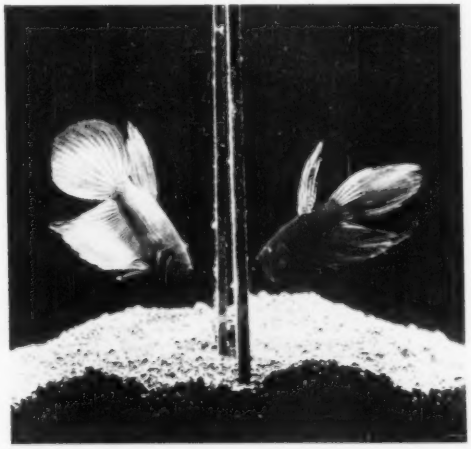
These Paradise fish swimming near the top of the tank were purposely given a fairly slow exposure (1/100 second) by Tad Nichols to show their graceful action.

Goldfish were captured on film by McKelvey who used three midget gas-filled lamps, one placed above the tank and one on each side at 45-degree angles. Exposure was 1/100 at f/22.

TIPS FOR BETTER FISH PICTURES

1. Use shutter speed of 1/100 sec. or faster. For box camera, use open-flash and gas-filled lamp.
2. Use small aperture opening for good depth and sharpness. Best results are at f/22 or smaller.
3. Use adequate lighting—flash is best. Floods or sunlight often make long exposures necessary.
4. Figure exposure about one stop more than normal for flash and two stops more with floods.
5. When setting up your lighting gear, be sure the lens doesn't pick up flare or reflections.
6. Use camera with lens of short focal length for close-ups in order to obtain depth of field.
7. Use long focal length lens for shots made at greater distances but a small opening for depth.
8. Study the habits of your fish and you will know in advance where the good shots will be.
9. When in public aquariums, get help of attendant to maneuver fish into striking positions.
10. Use a tripod whenever possible and compose your shots on the groundglass for best results.

The Dempsey, a popular tropical, was recorded by Roy Caples with two No. 3 flashbulbs—one set up to bounce against wall behind tank, and one in front. An f/45 aperture gave sharp detail.



Two Siamese fighters separated by a pane of glass were caught in a moment of suspended animation by Tad Nichols.

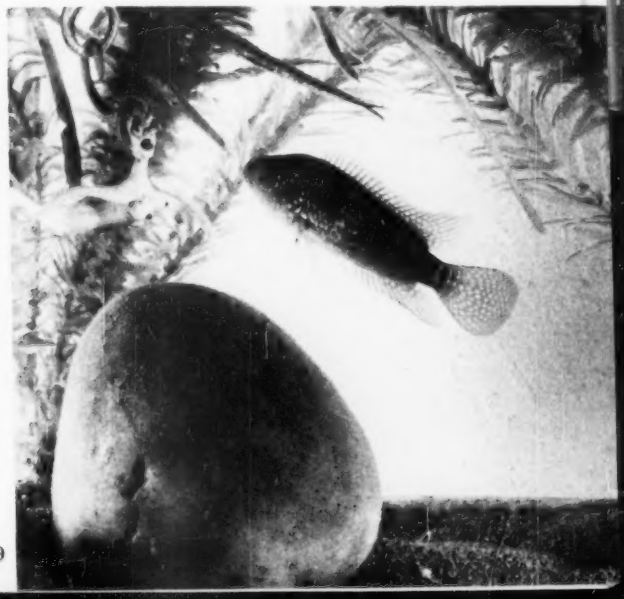


PHOTO POSTERS

By GERTRUDE FEHR

Teacher of Photography, Territet, Switzerland

Starting with a normal picture, left, the unusual poster effect shown above is achieved by compressing the negative's tone range. The process used for this example is outlined on the next page. Similar results can be obtained by bleaching and toning in several steps the author describes.

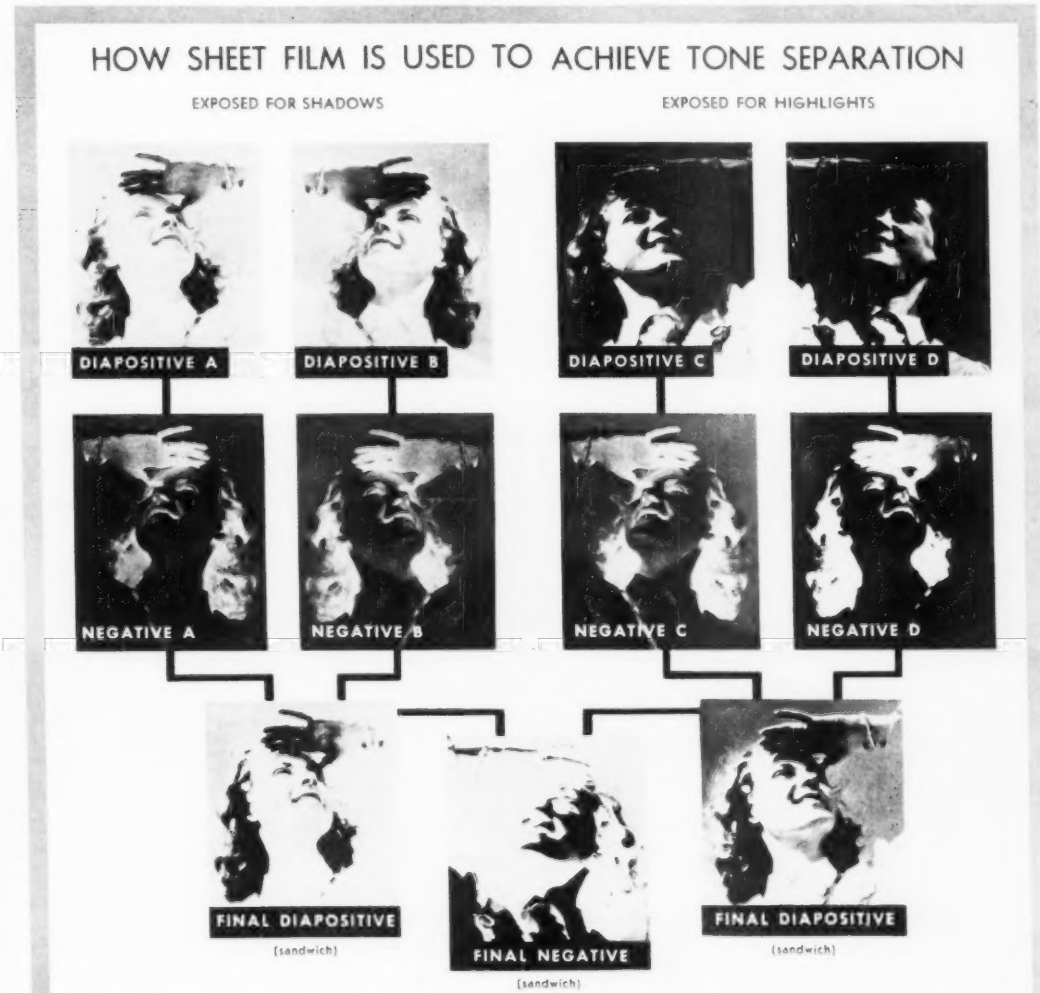
FULL-SCALE PICTURES that contain a wealth of fine tone gradations, all the way from black to white, are the ideal toward which the amateur usually bends all his efforts. But sometimes more striking results can be obtained with fewer tones. High and low key pictures gain their impact by crowding one end of the gray scale or the other, neglecting the middle tones. Here are two different ways you can make prints with only a few tones, creating a poster effect that is interesting in itself and very useful for many special purposes.

By "poster effect" we mean in general the tech-

You can create exciting pictures by printing your negatives in only a few tones instead of using the full scale

nique developed from gouache paintings. It has been employed in commercial art for several decades. Characteristic of this type of art work is the division of a design into a few sharply limited zones or spots, consisting at the most of three or four tones—perhaps only white highlight, medium gray middle-tone, and black shadow. It is an eye-catching effect. Prints made in this manner are ideal for posters, and have applications for use on letterheads, bookplates, match folders, calling cards, and for display, both commercially and in the home.

It is rather surprising that this unconventional effect, which is contradictory to photography as we



Steps in achieving a poster effect are diagramed above. Four diapositives are made from the original negative, exposed in pairs for highlights and shadows, and are used to print four negatives. Four more diapositives are made from them and sandwiched in pairs to make two negatives which again are combined to print the picture. In all, 15 sheets of film are required.

The toning process was used to obtain a poster effect in this unusual portrait. The print was partially bleached and toned in three successive steps, each one creating a single tone density. The highlights were affected first, followed by the middle tones and shadows.

normally think of it, can be achieved by purely photographic methods. Even some prominent artists who produce their finished work with the brush, use tone-separation photography as a basis for their work. I have furnished many prints of this type, for use by designers as a guide.

These tone-separated photographs are fascinating in themselves, and do not need the painter's brush to make them complete. A well executed picture of this type achieves a striking effect that makes it stand by itself as a work completely different from the usual black-and-white print.

Before going into the details of the processes by which this effect can be achieved, I should like to describe it in more general terms. Separation of tone enables the photographer to influence the curve of gradation by intensifying the highlights and shadows while flattening the middletones. Thus, utilizing the full range of the printing paper, heavy shadows are lightened, highlights are accentuated, halftones are modified, and details are preserved only where they are wanted.

It may seem contradictory that the photographic process should serve to obtain, on the one hand, subtle and finely-differentiated tone values and, on the other, the totally different poster effect. This apparent paradox is explained by the fact that separation of tone enables the photographer to break a full scale picture into any number of steps. This permits him to build up an image of as few values as he deems necessary—the fewer the better for the poster effect.

There are a number of different methods of tone separation, a few of which lend themselves to the creation of a poster effect. The procedures I am about to explain may be considered the most effective ones, and best suited for handling with the average amateur's equipment.

No matter what method is used, it is necessary of course to start with the right subject and the correct lighting. Close-ups of people, particularly back-lighted portraits and those made with contrasty illumination from a single spotlight as the main source, are very suitable. Before starting to work, the photographer should plan the pictorial effect he desires. He can separate his tones more or less coarsely, cut his image in three or more steps, and keep these steps narrower or larger. The final picture will profit by the work he has done to reduce the number of tones in the original picture setup. The more contrasty the lighting, the more striking the poster effect that is obtained.

The two methods of tone-separation to be discussed here are (1) *isohelie*, which involves making a series of diapositives and of negatives to obtain a pair of final negatives which are sandwiched together to produce the final print, and (2) chemical *separation of tone*, which enables the photographer to reduce a picture to a few shades of gray by using a bleach and a toner, in several successive steps, all work being done on the final print itself.

The original negative for making a picture by *isohelie* should be exposed with lighting as indicated previously, and should be developed somewhat longer than ordinary to build up its contrast. From this negative four diapositives are made, two for the shadows and two for the highlights. The most convenient way to accomplish this is by contact printing the

original negative four times on sheets of film. A contrasty film of the commercial type is recommended for this use, and for some subsequent steps, although it is not always to be developed in such a manner as to produce the maximum contrast it is capable of achieving. Two of the diapositives (one of each group) should be made with the emulsion of the negative facing the emulsion of the film, in the normal manner, and two should be made with the negative the other side up. This will produce pairs which can be sandwiched together, emulsion-to-emulsion, as will be required later in the process. Exposures must be determined by test. The two diapositives exposed for the shadow detail *(A and B)* will receive much less exposure and will show clear film with no tone at all in the highlight areas. The two exposed for highlight detail *(C and D)* must receive more exposure, and will be completely black in the shadow areas. An average exposure ratio between the two would be about four to one.

The four diapositives are developed in a metol-hydroquinone developer that will produce average contrast—not in the high-contrast formula which often is recommended for the film being employed. Kodak formula DK-50 will do, for example, or you can develop in the same solution you use for regular negatives. The four diapositives are fixed and washed as usual, and dried before the next step.

From the four diapositives, four negatives now are made on process film, again with exposures planned to emphasize shadows *(A and B)* and highlights *(C and D)*. This time a very vigorous developer is employed to build up contrast. A hydroquinone-caustic soda formula of *(Continued on page 182)*

Different effects, as shown in these pictures, are obtained by varying the number of times the process of bleaching and toning is repeated. Too many steps gives a print with normal tone gradations.

Why Change the Subject?

By CHARLES DuBOIS HODGES

Illustrations by the Author

Taking portraits that trace the growth of a young neighbor will reward you handsomely in friendship and pictures

First in the series the author took of his young friend, this portrait shows her at the age of eight. Under the title of "Sculptor's Model," it hung in an international print exhibition.

WHO would believe a photographer who claimed he persisted in shooting pictures of the very same girl (no relative of his!) for almost a decade and a half, because he couldn't find any subject he liked better? As if this weren't enough to swallow, he tells us that a picture he took of her on the day he first saw her was hung in an international salon!

I would not have believed it either, except that he and I are the same person. Yes, I *have* photographed the same girl over fourteen of the most interesting years of her life thus far, and both of us have survived some ninety-odd shots. These were made, incidentally, with no less than eight different cameras, ranging in size from Bantam to 6½x8½. Her image has been recorded, at my behest, by rectilinear, soft-focus, and various anastigmat lenses, though I have never photographed her wearing either a bathing suit or an evening gown! Once she postponed a vacation trip and I traveled more than a thousand miles solely to add one more group of negatives to the collection. And it was my crowning bit of good fortune to take her most important portraits—on her wedding day, when her beauty was more resplendent than ever.

In retrospect, no set of pictures I have taken during my thirty years of photography has given me more pleasure than my long series of this girl named Anne. The illustrations on these pages are from the collection, which shows her from the carefree days of childhood through her wedding day. And these few examples perhaps will demonstrate better than words could tell why the set they represent is my favorite. Possibly, in addition, they may

Fourteen years old now, the girl is becoming a young lady. Note how lighting and selective focus are combined to achieve an appropriately soft effect.

Eleven years old, the subject already shows excellent qualities as a natural, photogenic model. The child's confidence and understanding are absolutely necessary for success.

One year later, at the age of twelve, there's a real change in the youngster's appearance. And this natural pose with a book is subtly indicative of the adolescent's growing interests.

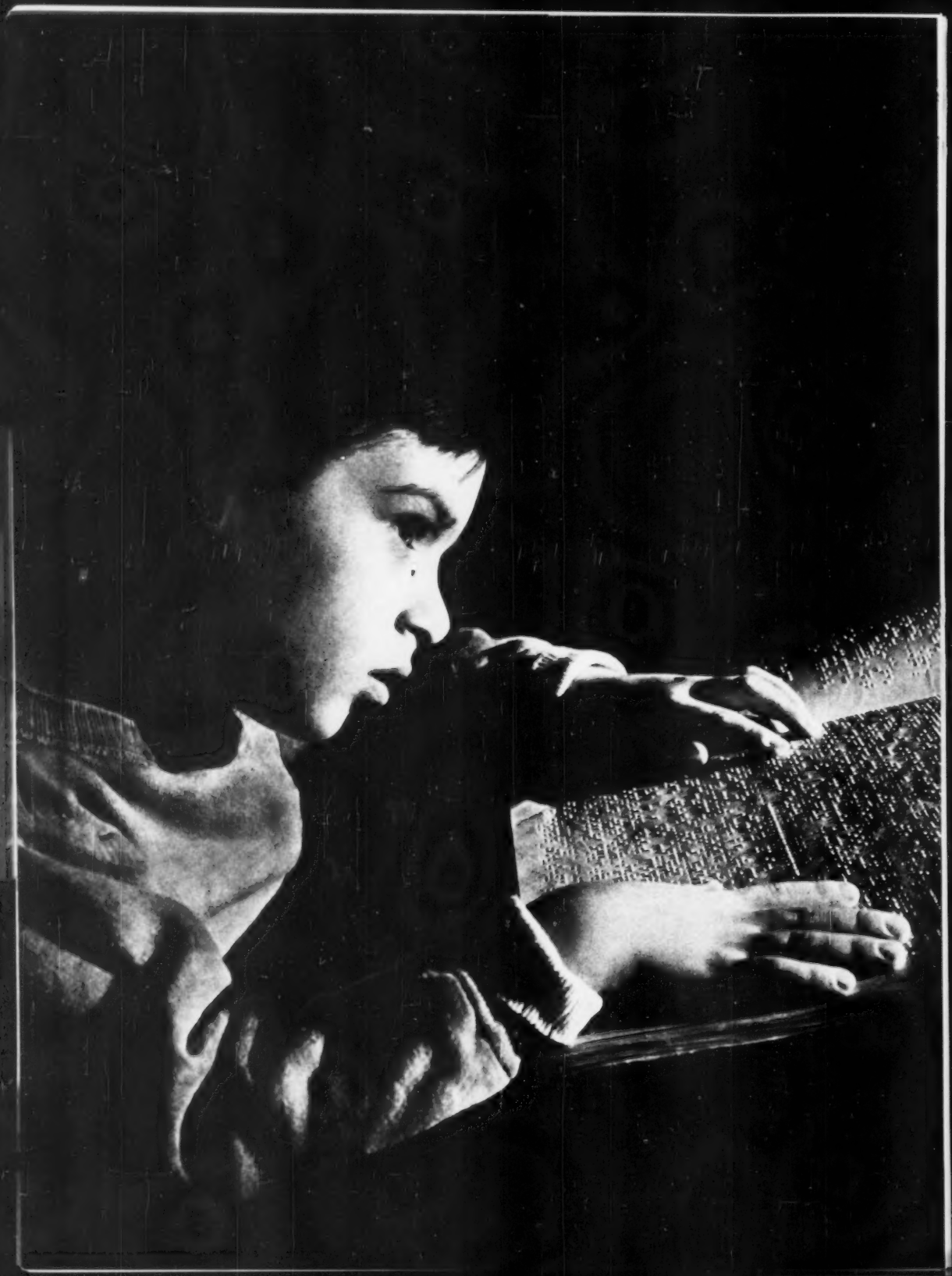
When she's nineteen, the young lady rates the glamorous type of treatment. But note that good taste and wholesomeness continue to characterize the author's pictorial approach.

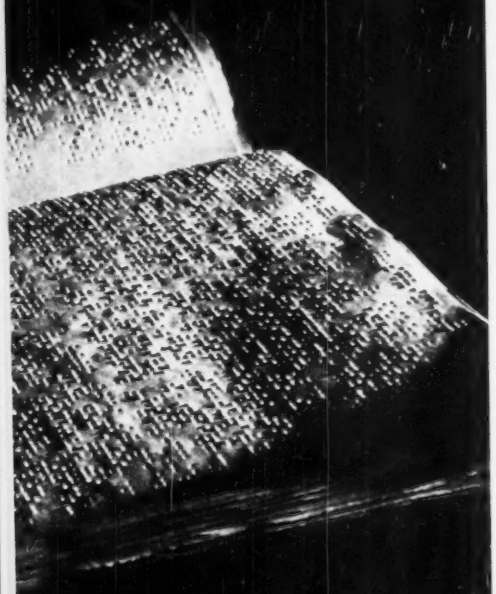
Wedding pictures are an appropriate climax to the pictorial record. The girl is now a woman of twenty-one years, and has begun a new phase of her life. The photographer has done an artistic job of coverage and has enjoyed a valued friendship.

inspire other serious amateur photographers to record one child-subject through youth to maturity. If this should occur I offer my enthusiastic encouragement, and I guarantee an ultimate satisfaction far surpassing all the effort, persistence, and patience expended on the job.

Of course, I realize that luck is bound to play a big part in the failure or success of such a long-drawn-out project; and I frankly admit that I was treated generously indeed by Dame Fortune.

(*Continued on page* 212)





"MY WORLD IS GROWING"

BY

W. STARR SUYDAM

First Prize

BLACK and WHITE

POPULAR PHOTOGRAPHY

1950 PICTURE CONTEST

Again we extend heartiest congratulations to all winners in another big Picture Contest, and our sincere thanks to the many thousands of photographers in all parts of the world who participated in this exciting event. The pictures reproduced here include the five top prize winners in both the black-and-white and color divisions, plus many others selected from among the remaining 270 winners. More prize photographs will be published in future issues of POPULAR PHOTOGRAPHY.

Over 100 winning pictures, including most of those presented here, will form the 6th Annual POPULAR PHOTOGRAPHY Traveling Salon, which is now on exhibition in New York City and will be shown all over the country during the months to come. Look for the schedule in forthcoming issues of this magazine; the Salon will give you an opportunity to see some of the outstanding pictures from the contest as real photographic prints.

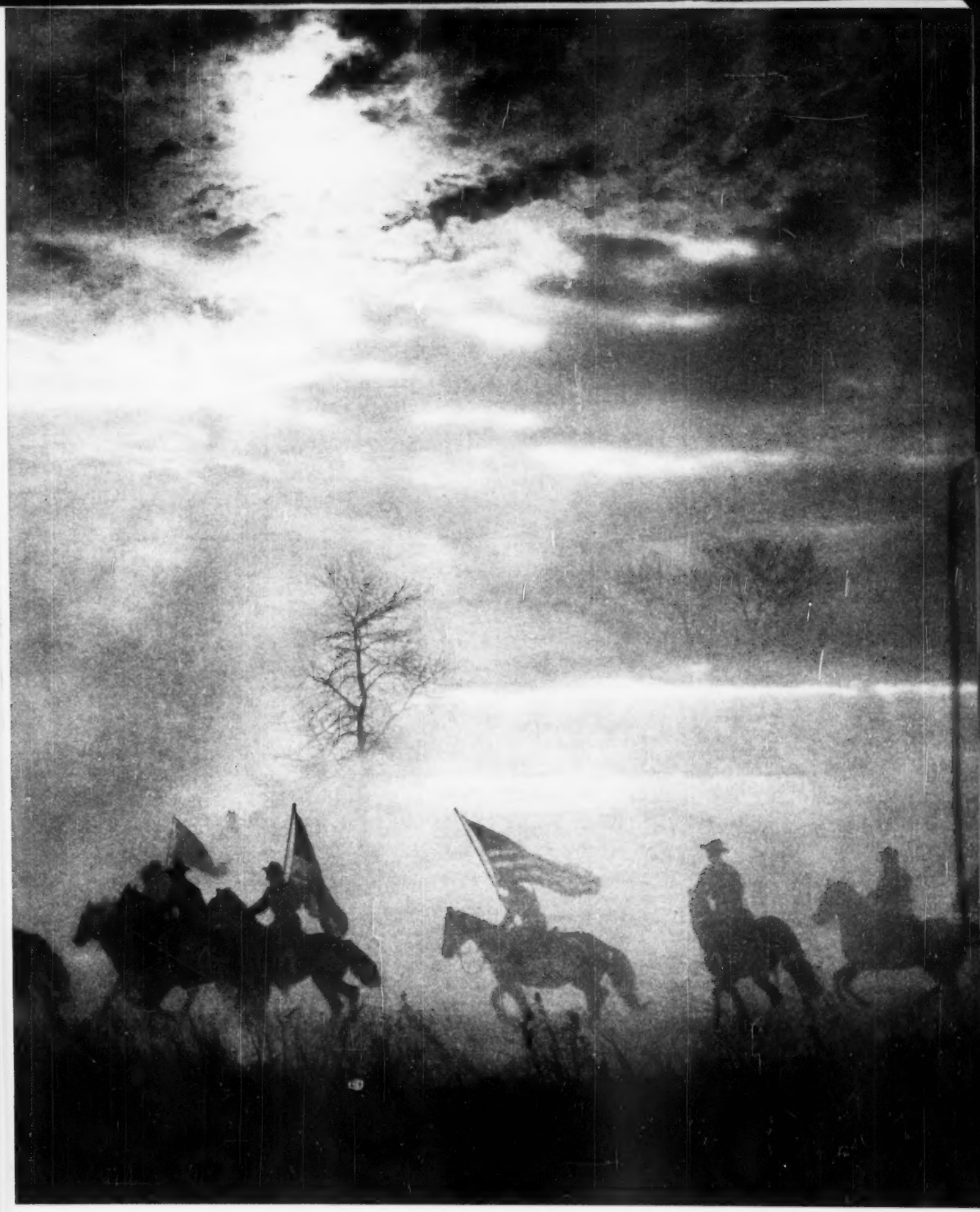
A story about the major prize-winners, and technical data on the pictures in this section, will be found elsewhere in this issue.

COMPLETE LIST OF CONTEST WINNERS ON PAGE 129

SECOND PRIZE

EARLY MORNING CHARGE

A. AUBREY BODINE



THIRD PRIZE

REFLECTION

RICHARD A. PANTER

FOURTH PRIZE

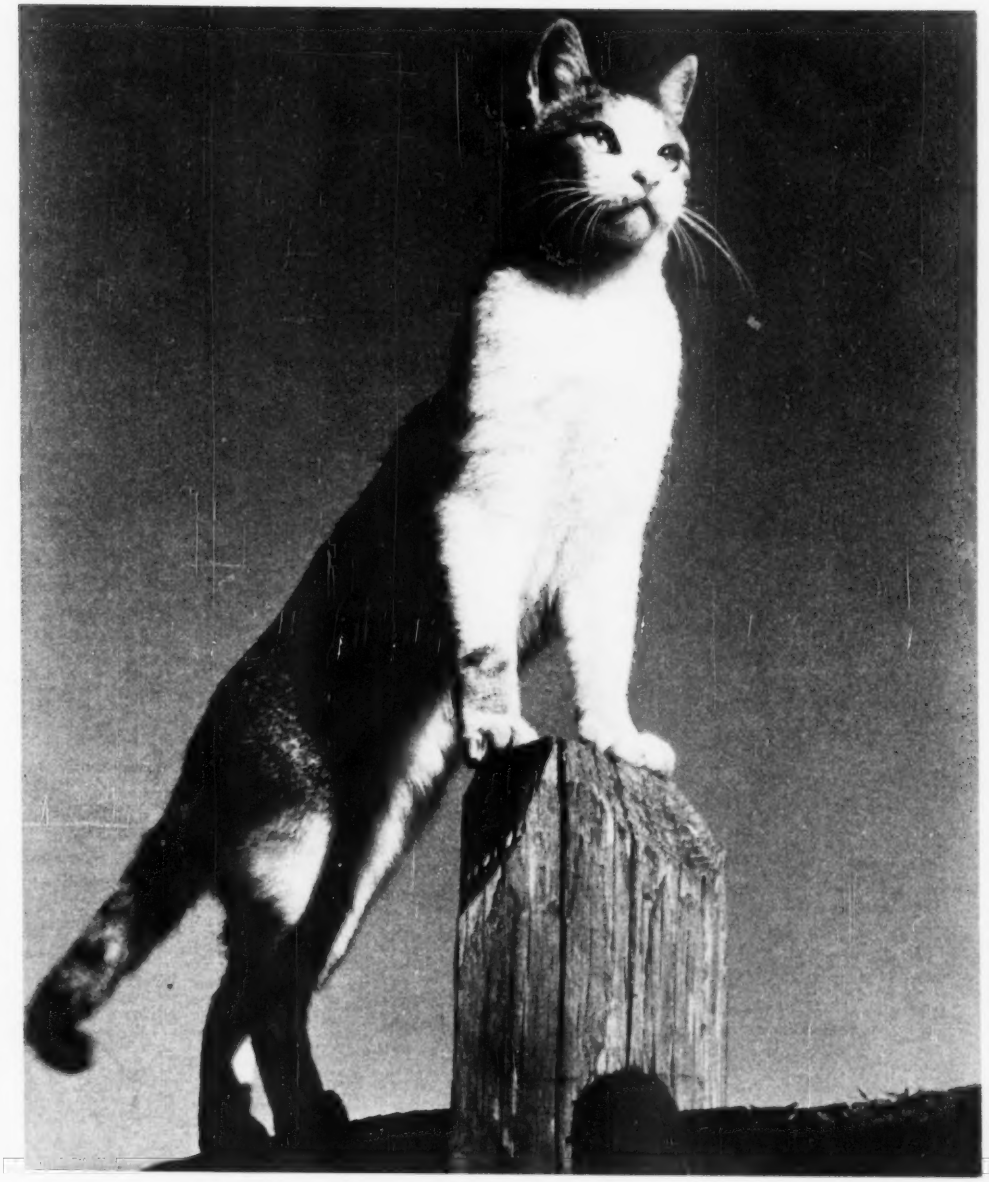
THE WAVE AND THE LIGHTHOUSE

LAURENCE R. LOWRY

FIFTH PRIZE

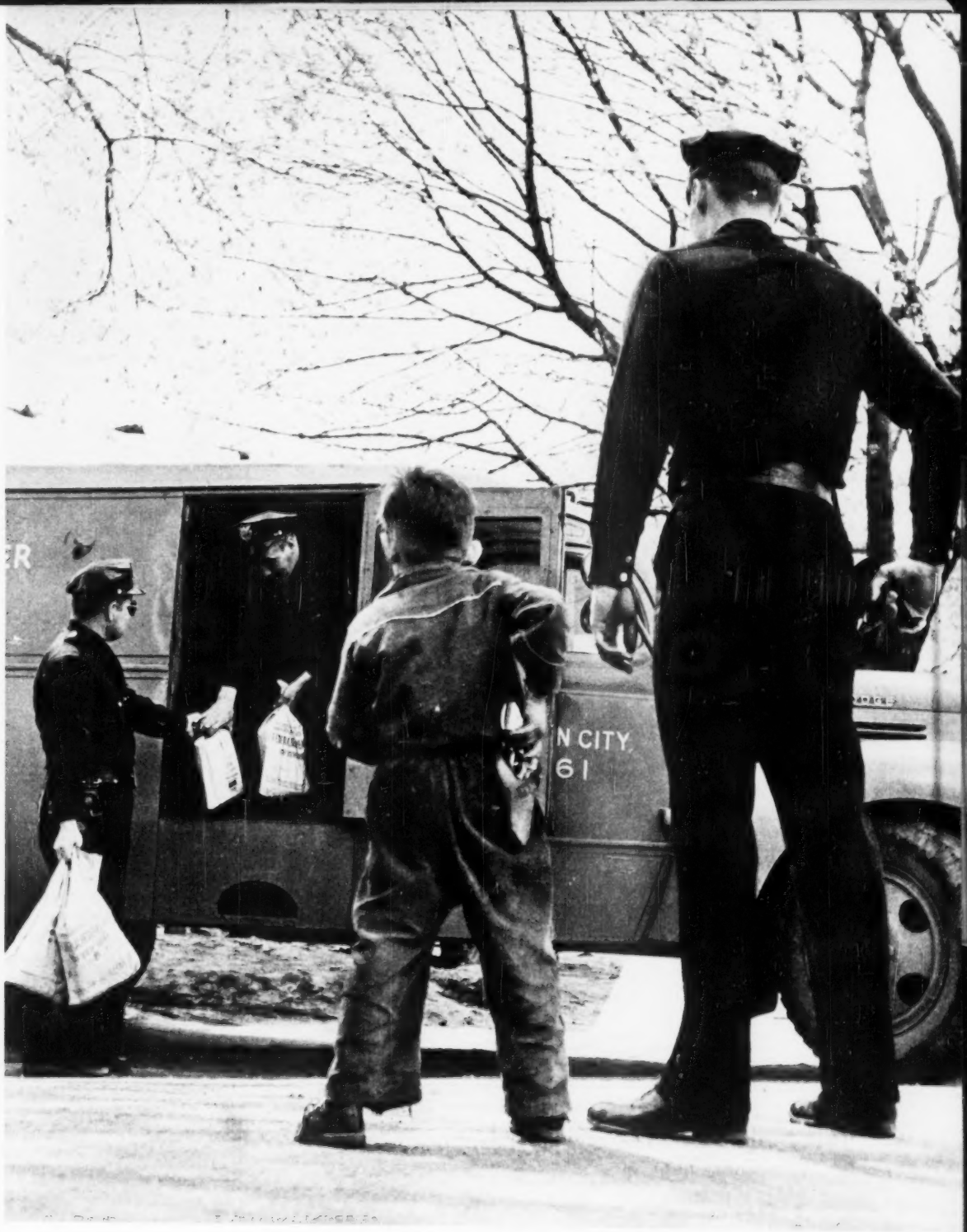
PATTERNS ON THE PANE

JANET KONKLE

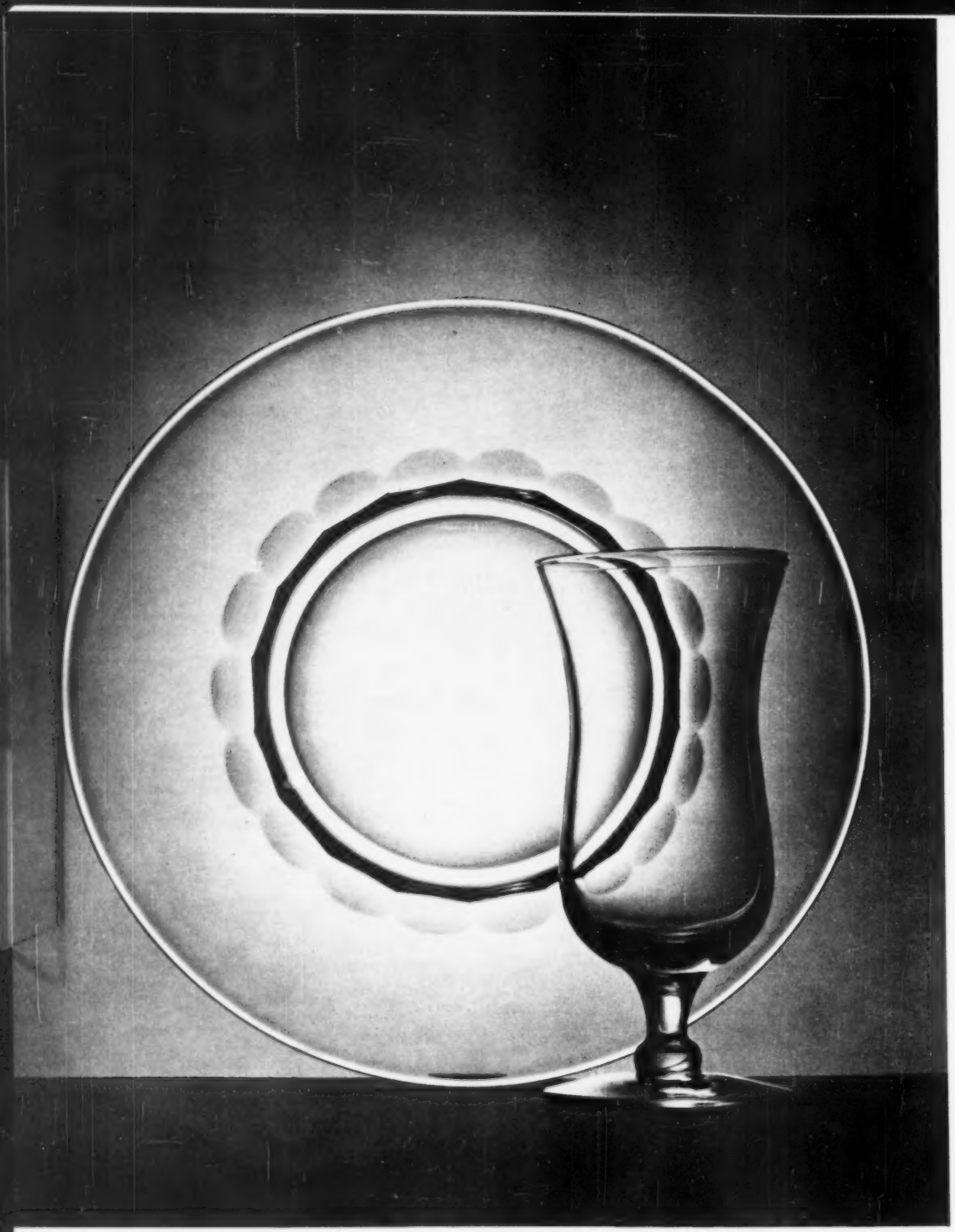


AFTER-DINNER SPEAKER by Barbara Green

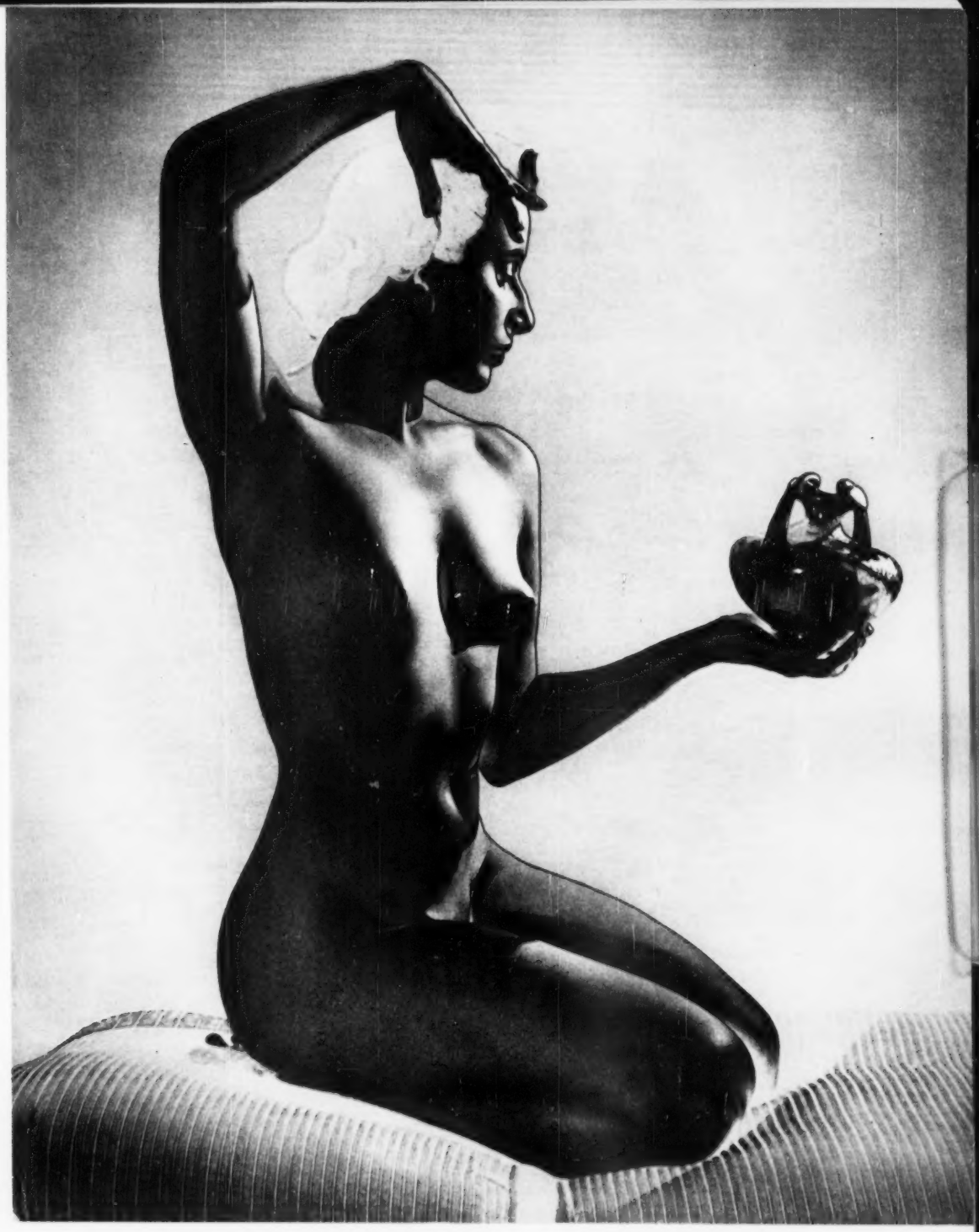
FASCINATION by John Gajda



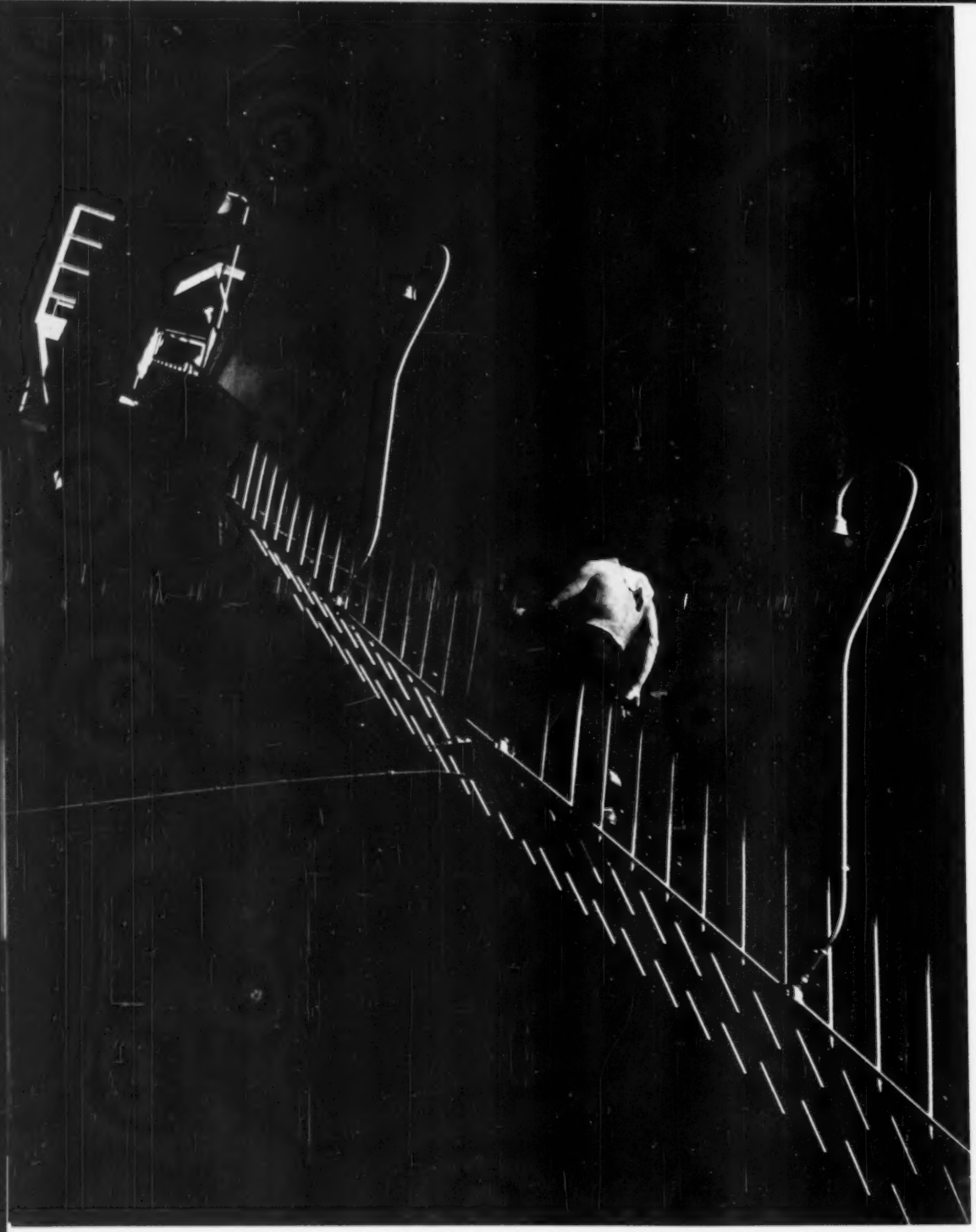
GUARDS' HELPER by Sam Falk



CRYSTAL CLEAR by Frank L. Miller



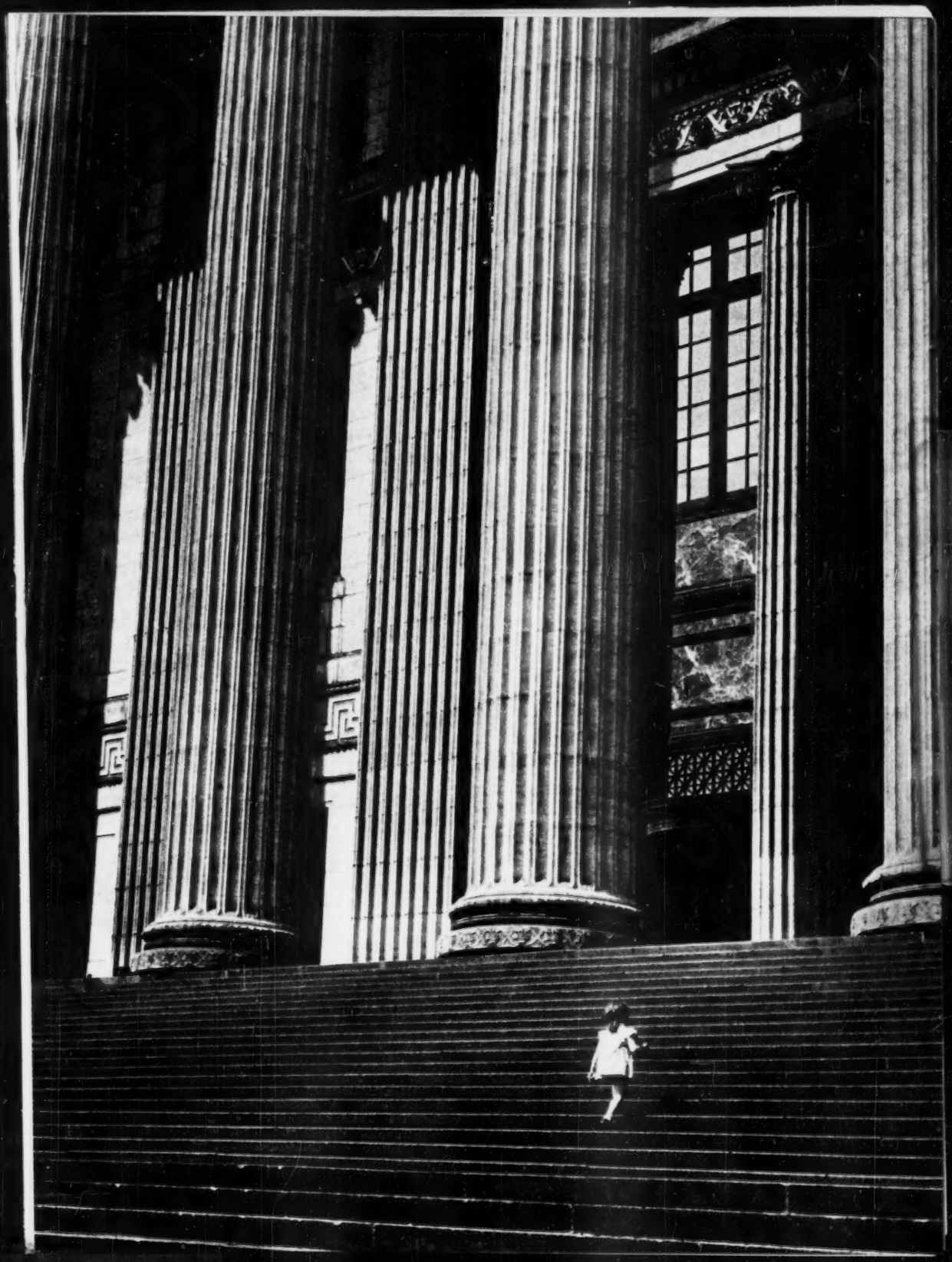
CONTEMPORARY NUDE by Ernest E. Timms

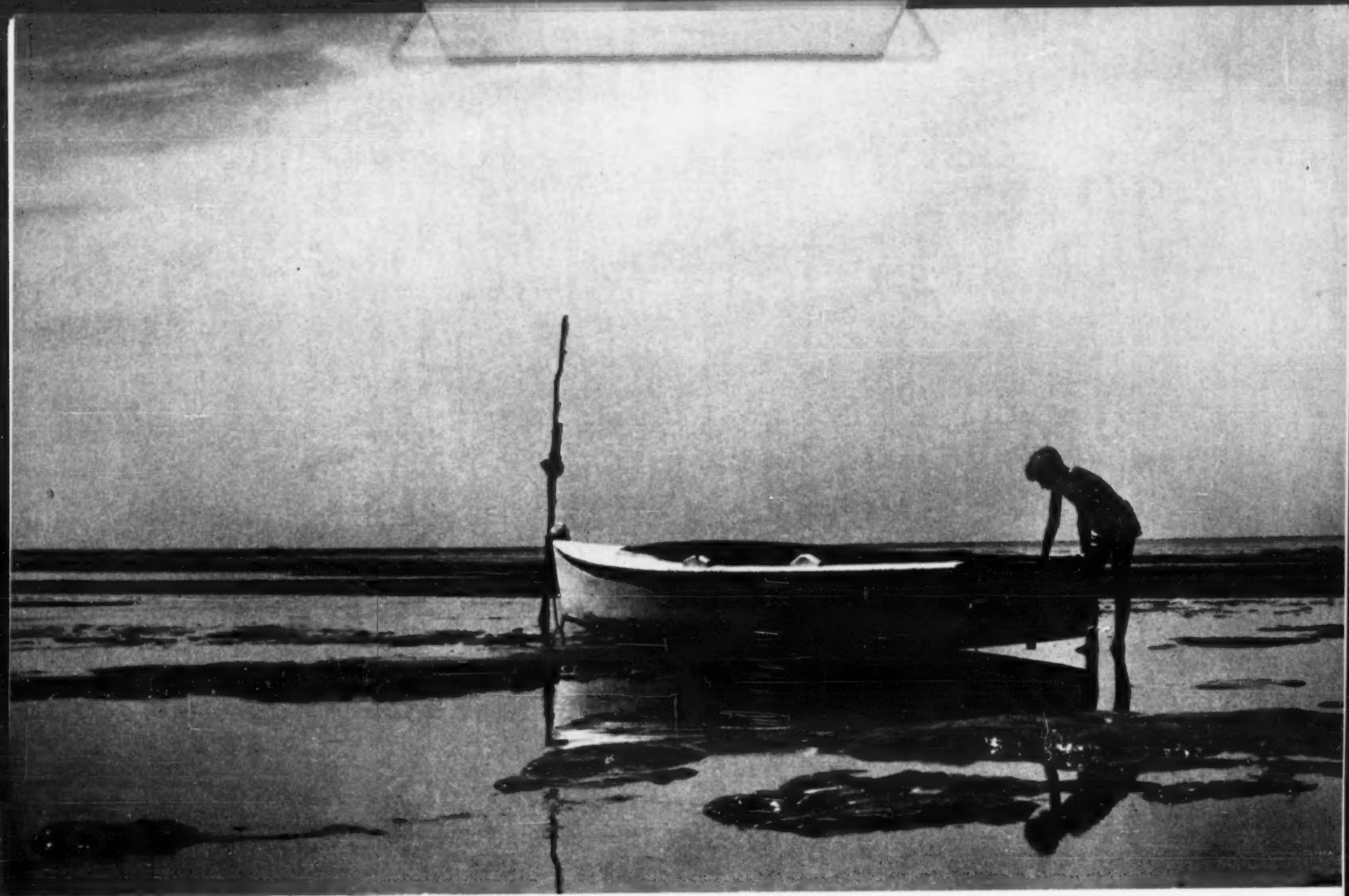


ASCENT by Boris Dobro

MISS AND MASS

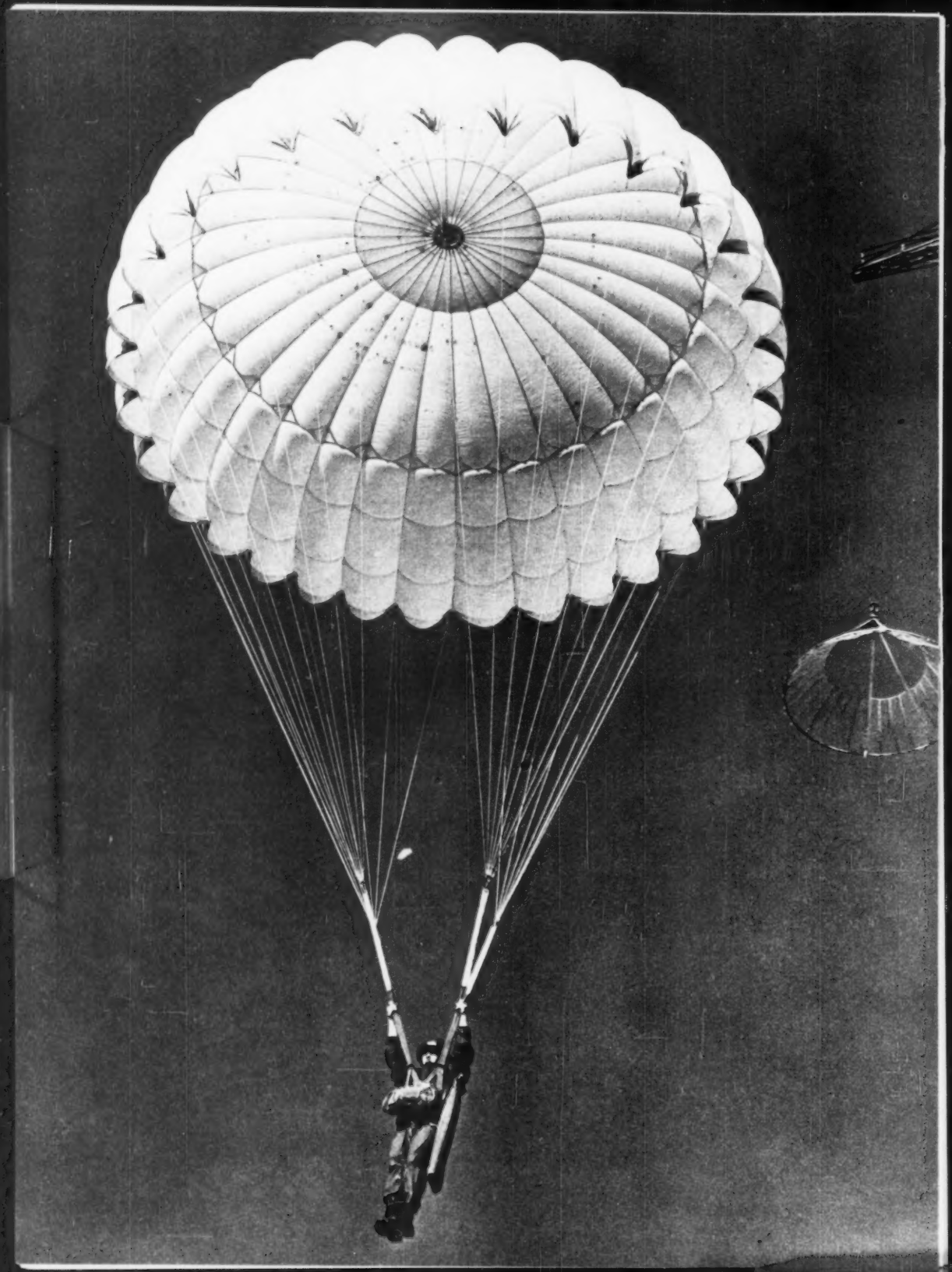
by Earle W. Brown





LOW TIDE by David A. Murray ↑

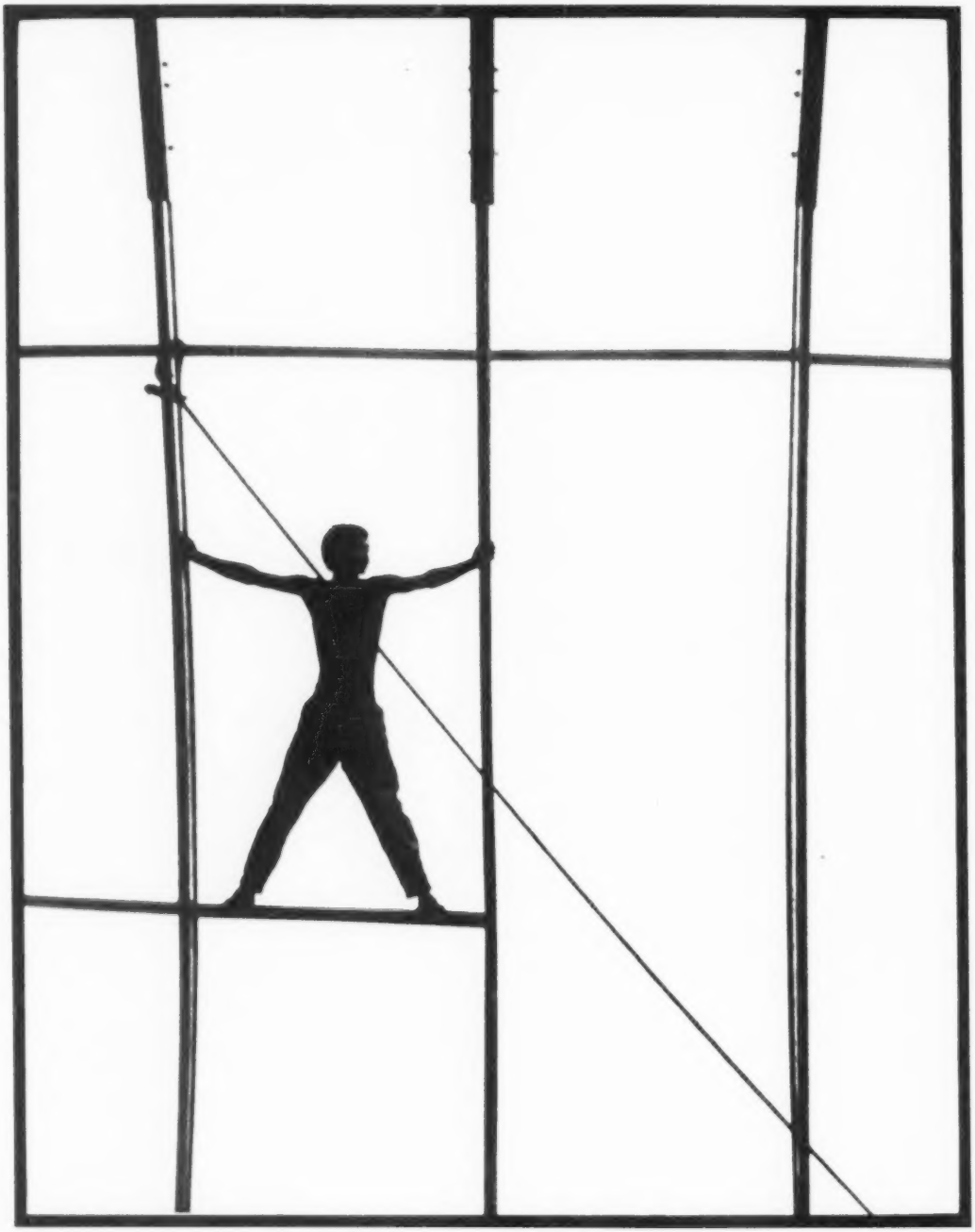
↓ RESCUE by Gretchen H. Goughnour



MOUNTED PATROL by Boris Carmi

PARATROOPER

by Lachlan M. Sinclair



SPIDER by Archibald Fukutomi

REPOSE

by Edward Canby

SWING HIGH by Siegfried R. Gutterman

FIRST PRIZE

JUMPING DOUBLE

GLEN FISHBACK

THIRD PRIZE

ON THE WING

HAL RUMEL

SECOND PRIZE

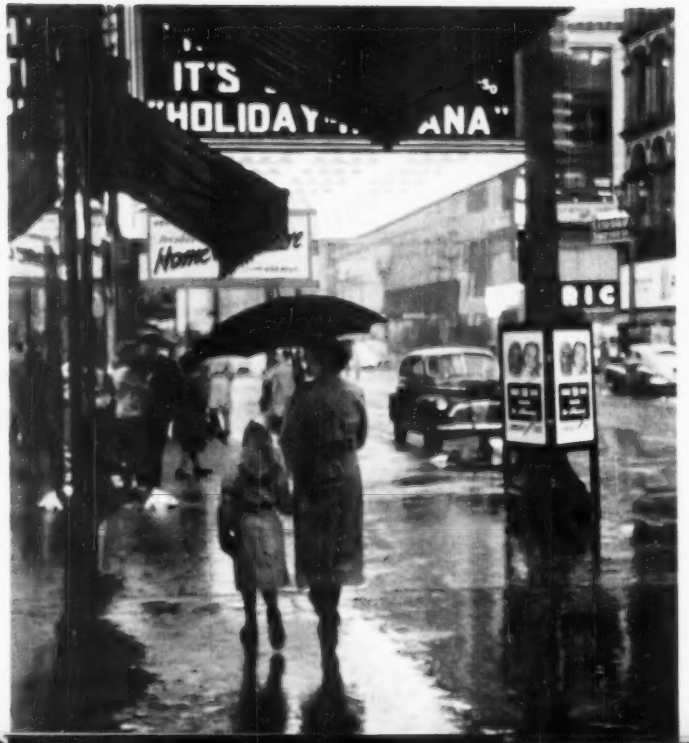
MODEL AND MOTIF

WALTER E. OWEN

FOURTH PRIZE

CELLAR SANCTUARY

SIGURD SAXOSEN

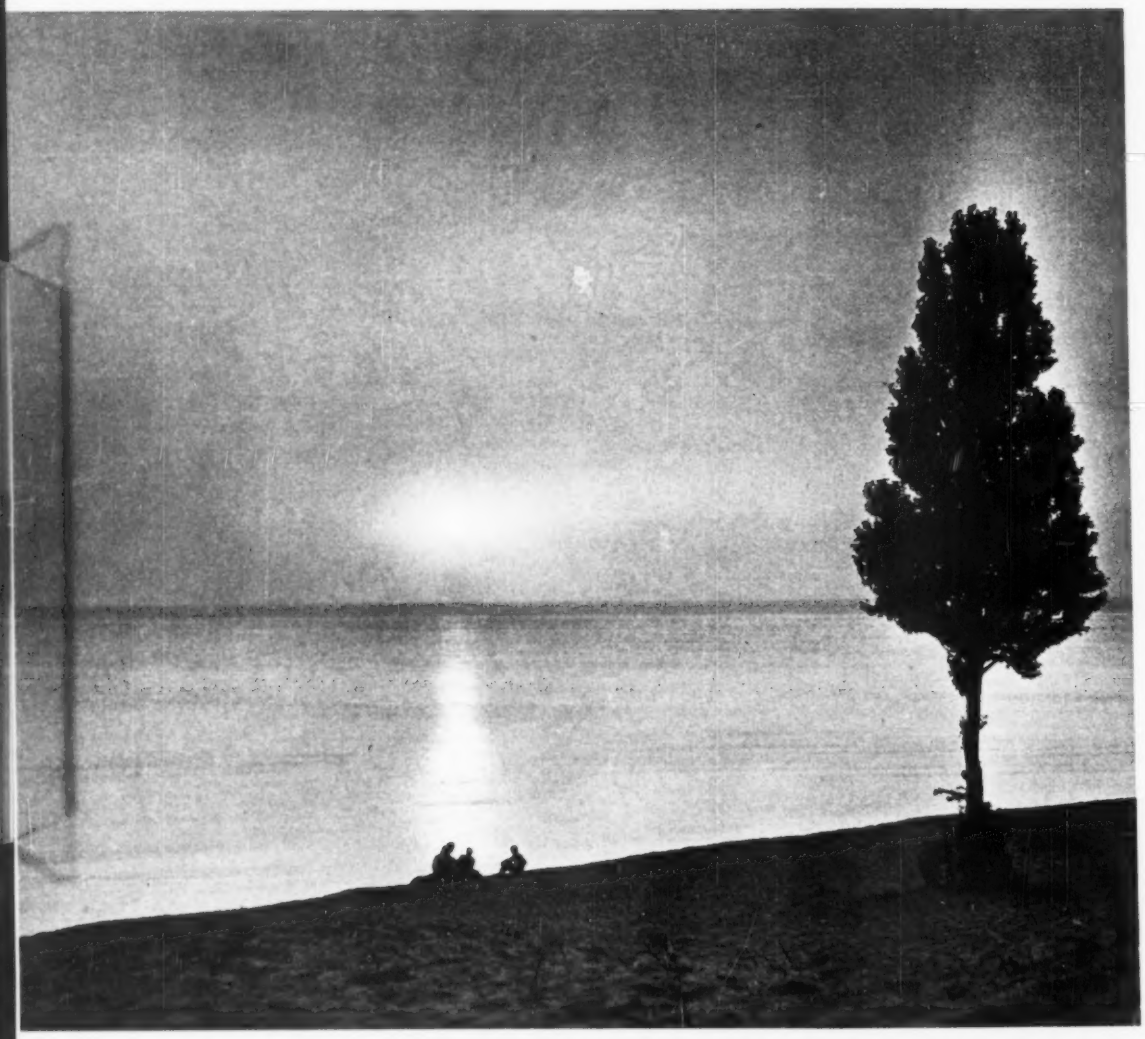


FIFTH PRIZE

ST. LOUIS IN THE RAIN

SAM J. VOGAN

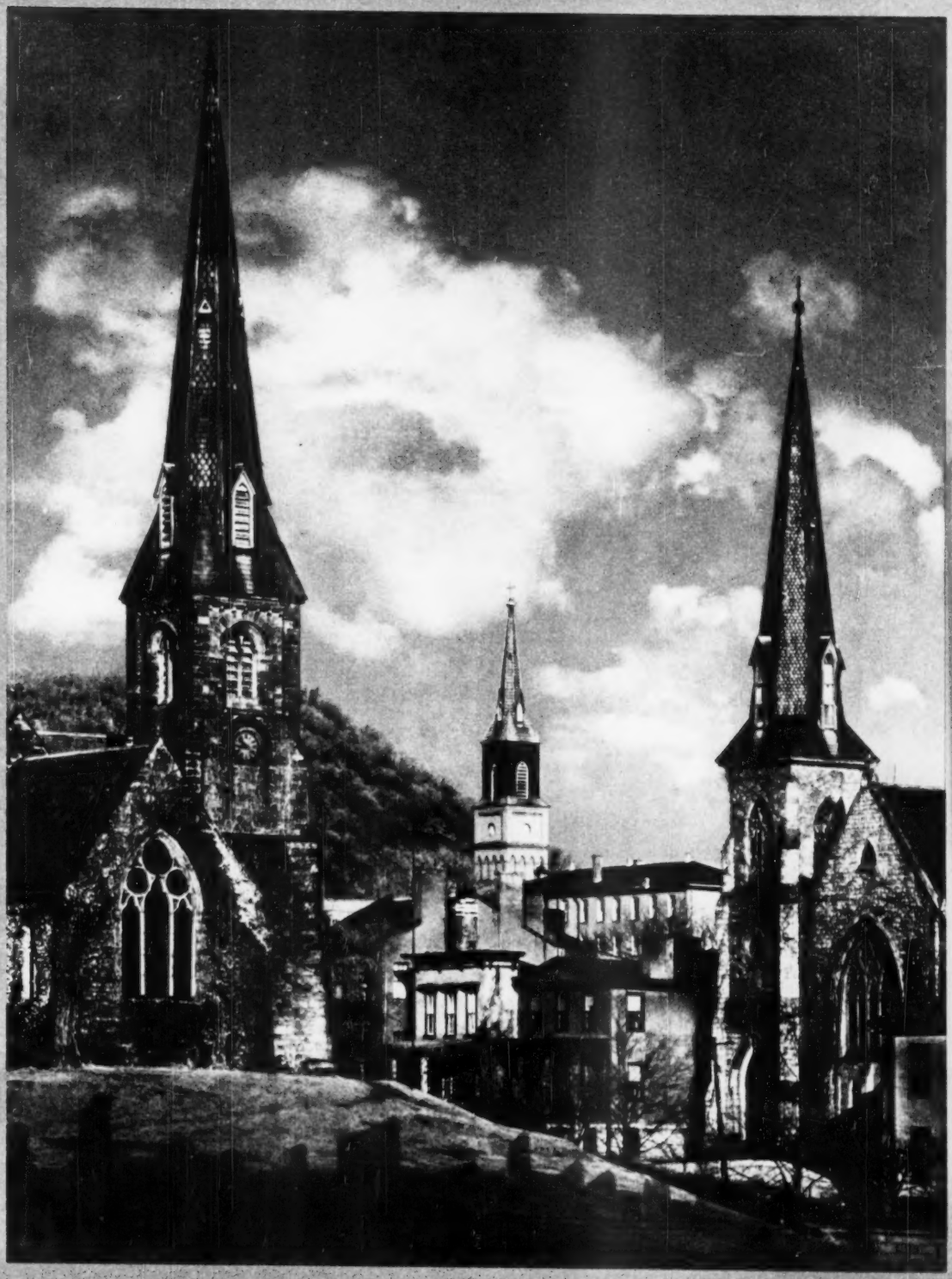
FLYING by Jules Alexander

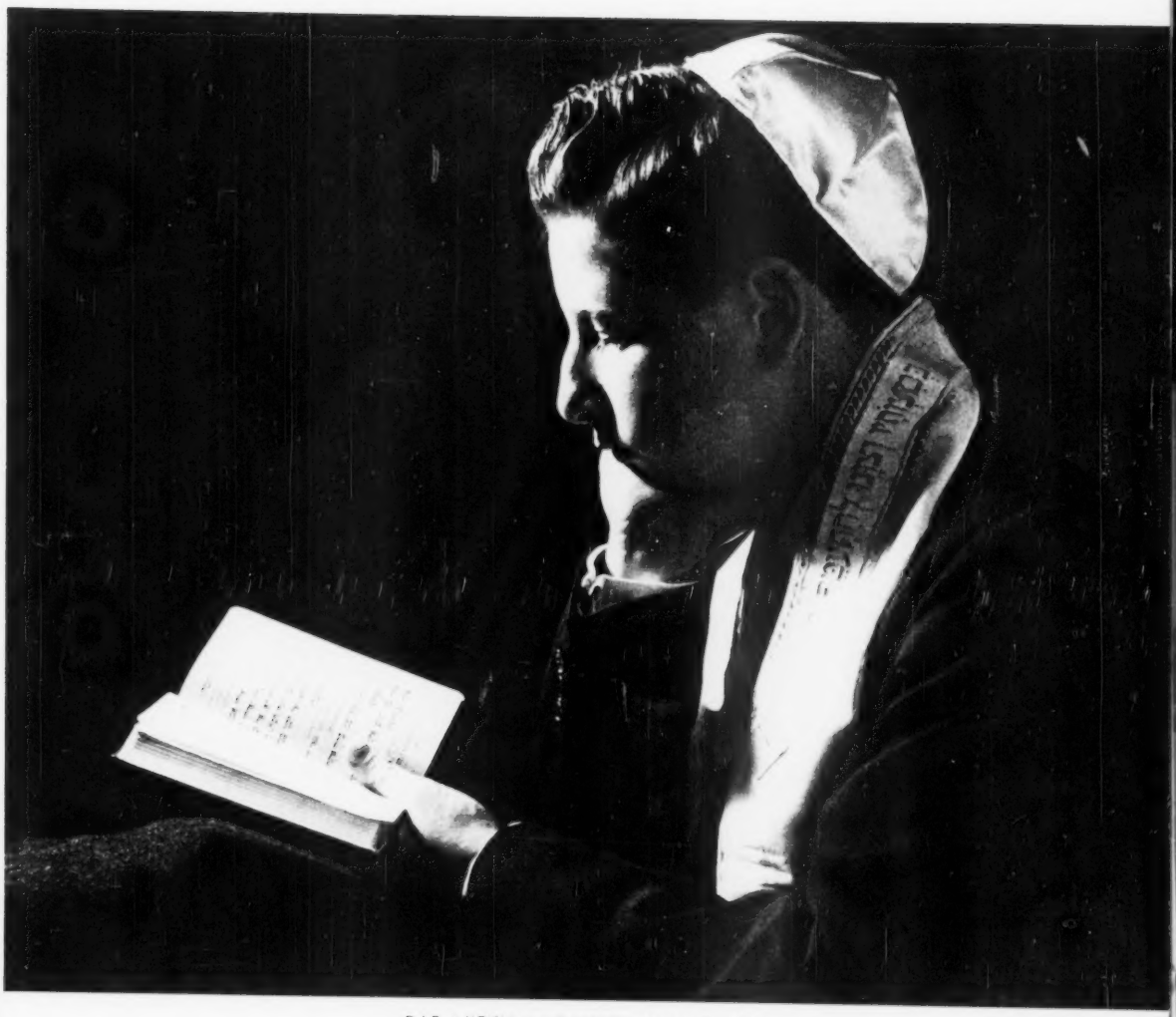


MOONLIGHT RENDEZVOUS by Janet Konkle

THREE SPIRES

by A. Aubrey Bodine





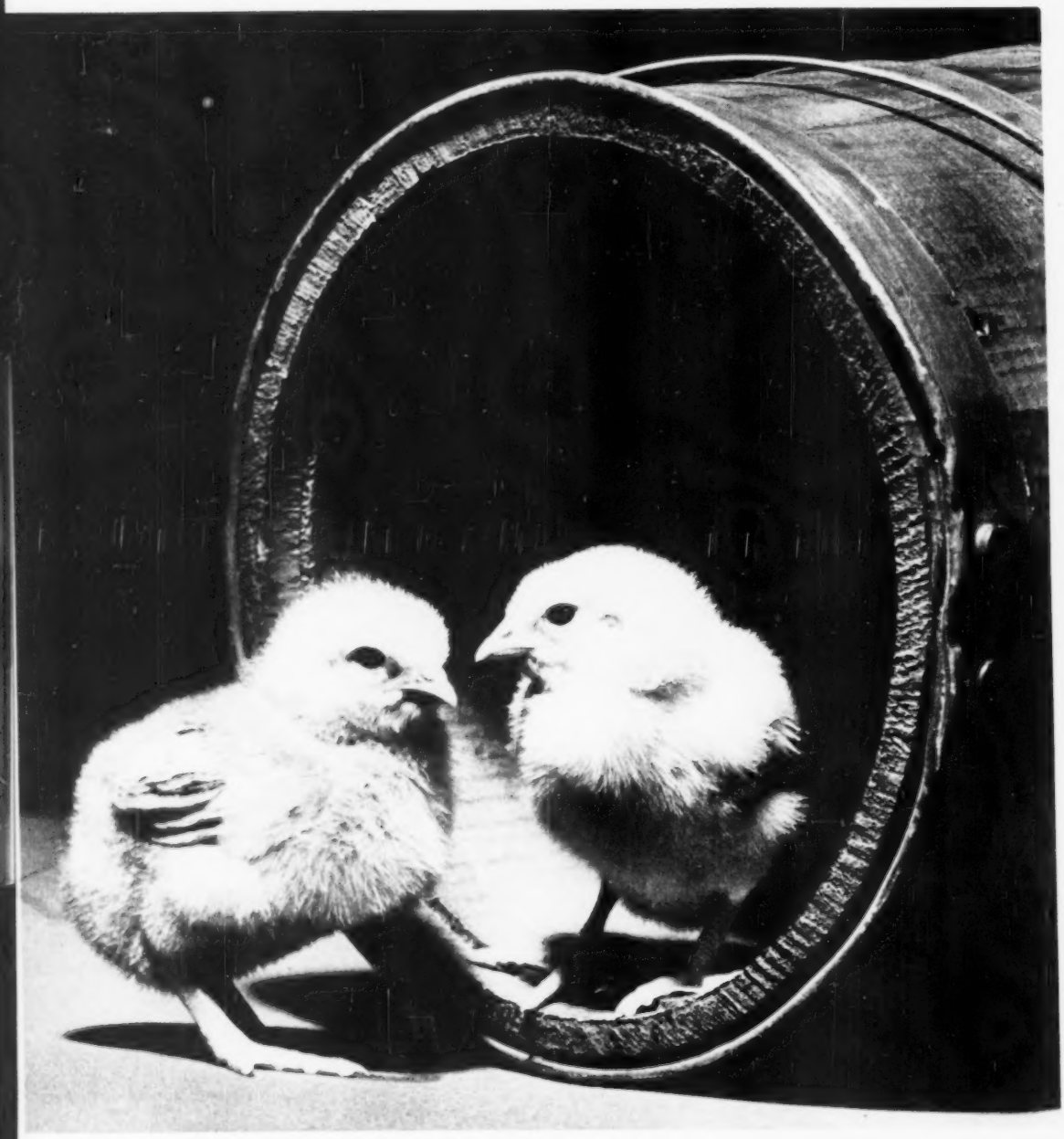
BAR MITZVAH BOY by Louis Tendler

CONSOLATION

by William Speer

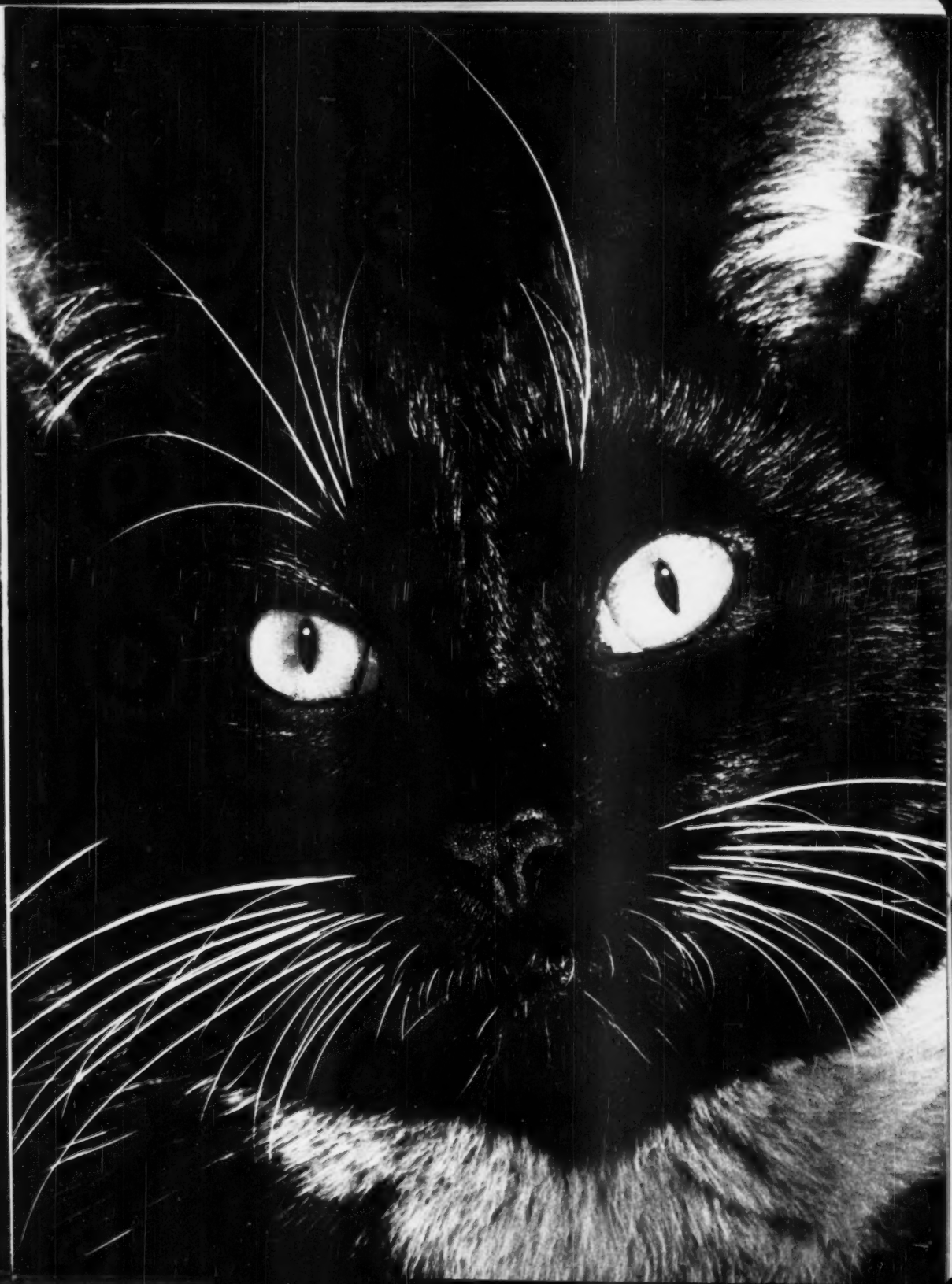
THE YEARLINGS by William L. Klender ↑

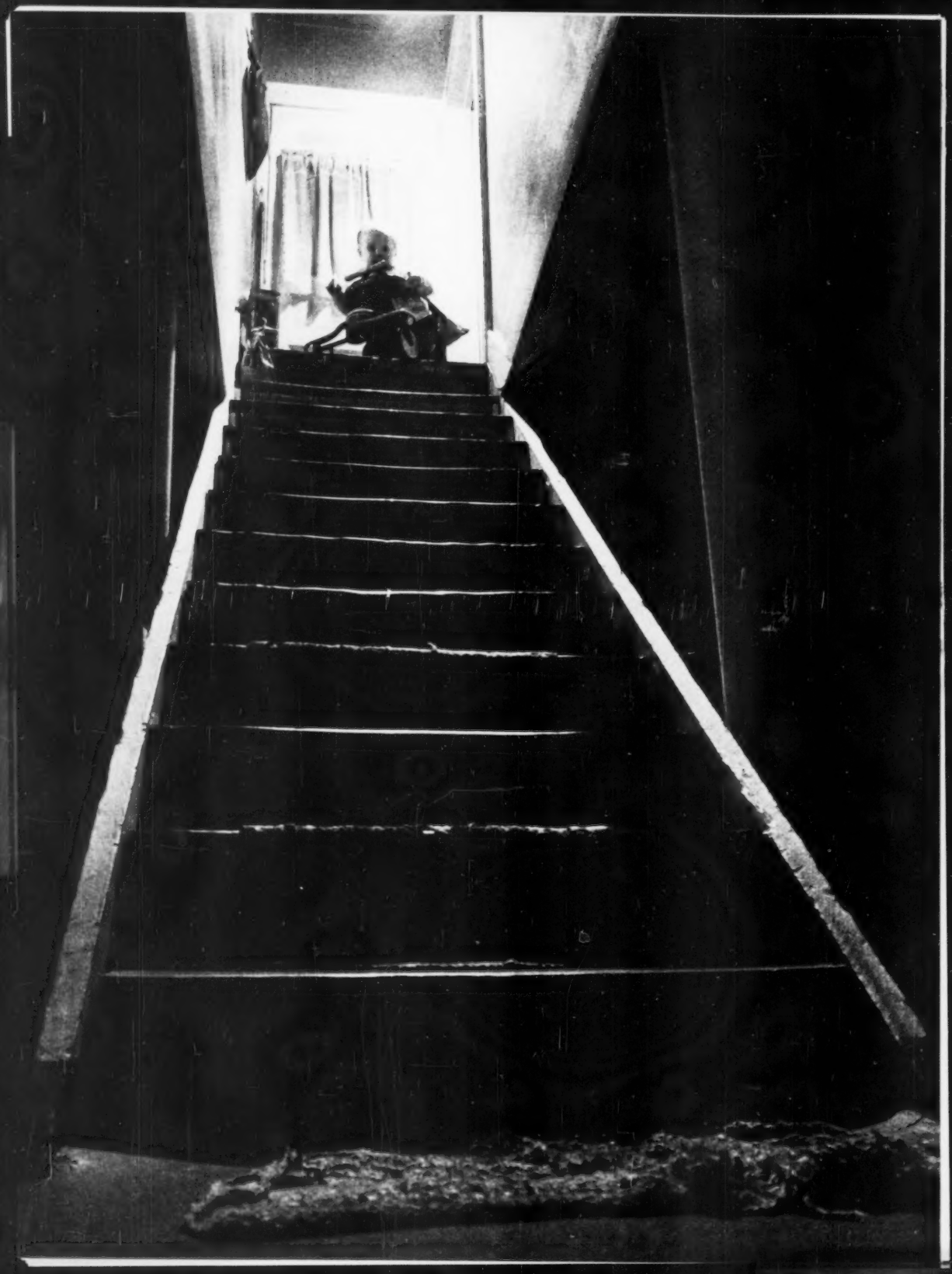
↓ WATER SPRITES by William L. Klender



CHICK CHAT by William Whitaker

MR. WHISKERS
by Michael J. Roll



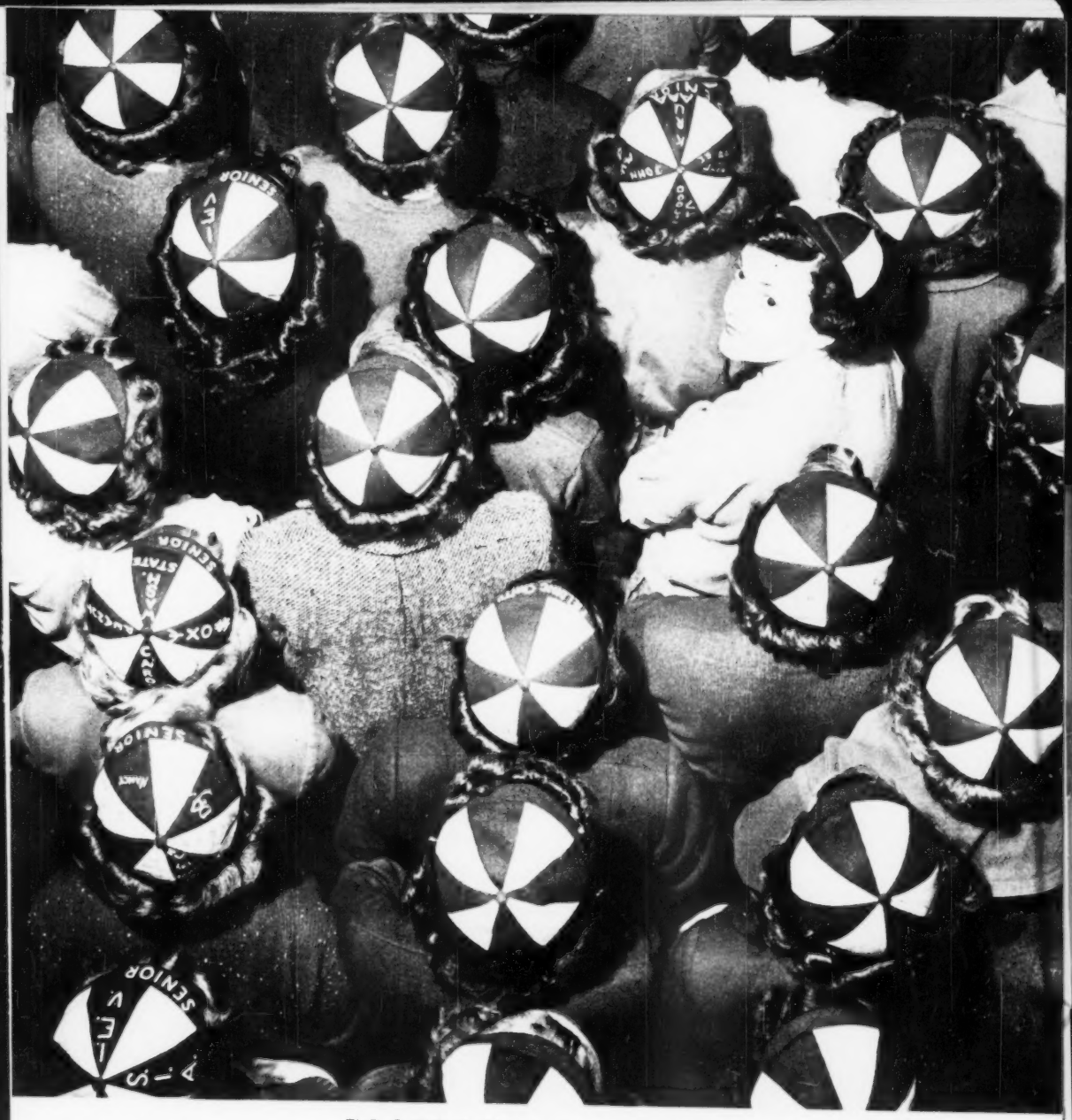


MAYAN PYRAMID by Julio Zadik

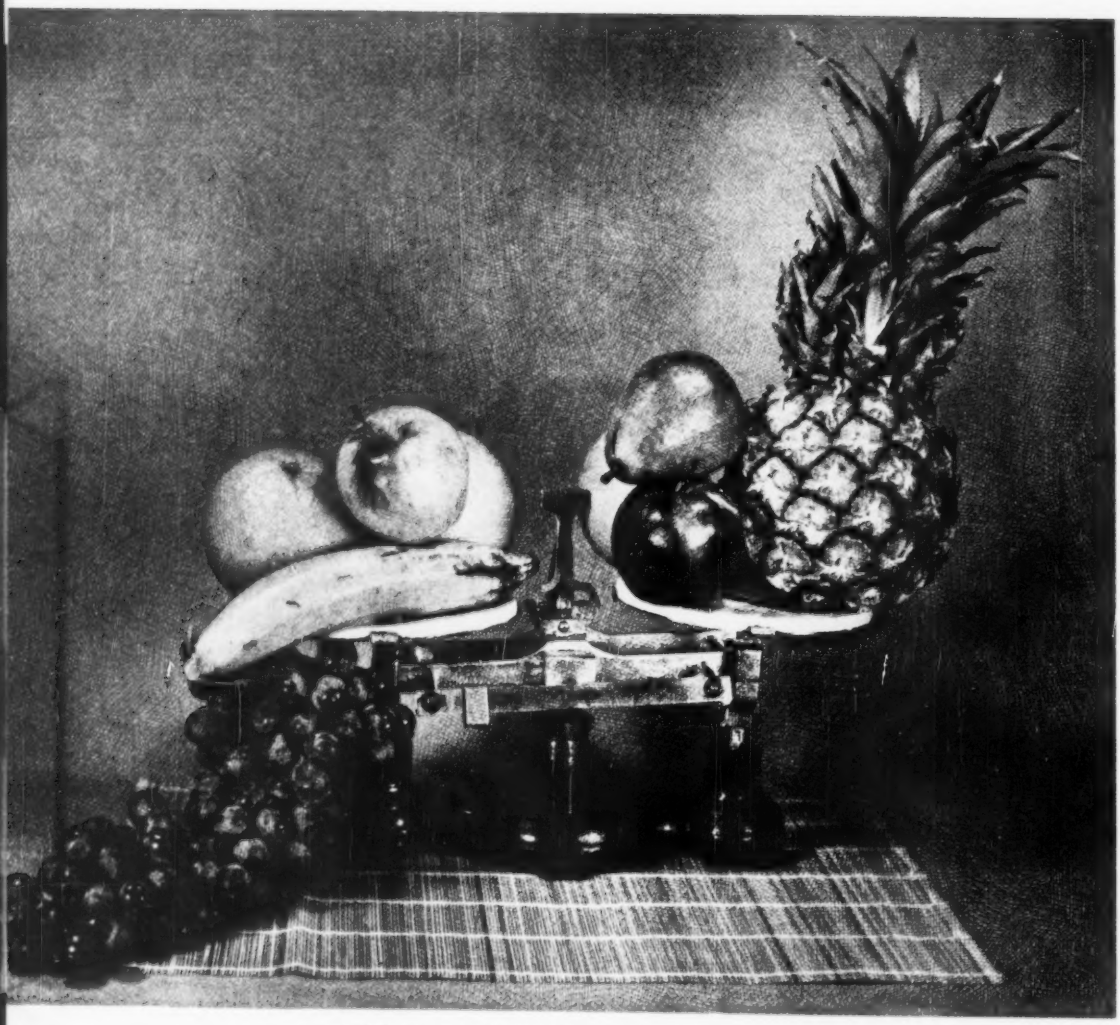
DANGEROUS PERSPECTIVE

by Joe Clark

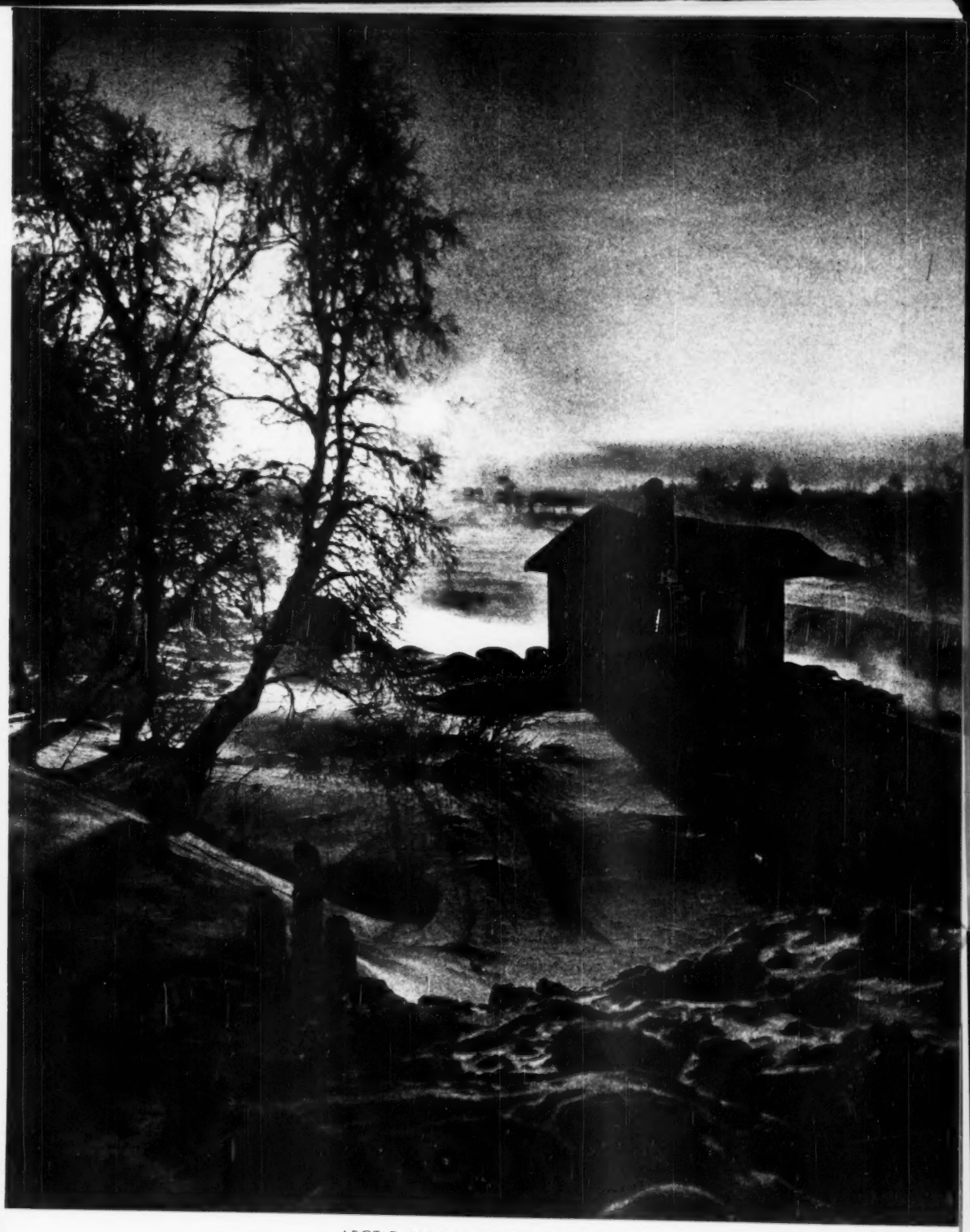
SLIDE, SCOOTER, SLIDE! by Patrick A. Burns



THE CURIOUS ONE by Donald P. Richards



A STUDY IN BALANCE by Albert H. Duvall



ARCTIC NOON by Karl W. Gullers

BUBBLE BATH by S. W. Flannery

FIRST LOOK by Ben de Brocke

MISS PLASTIC by C. J. Haeck

SUMMER BREEZES

by John E. Carrebye

SATIN SLIPPERS by Raymond Caron

BACKSTAGE

by Jules and Beatrice Pinsley

JASSY AND JENNIFER

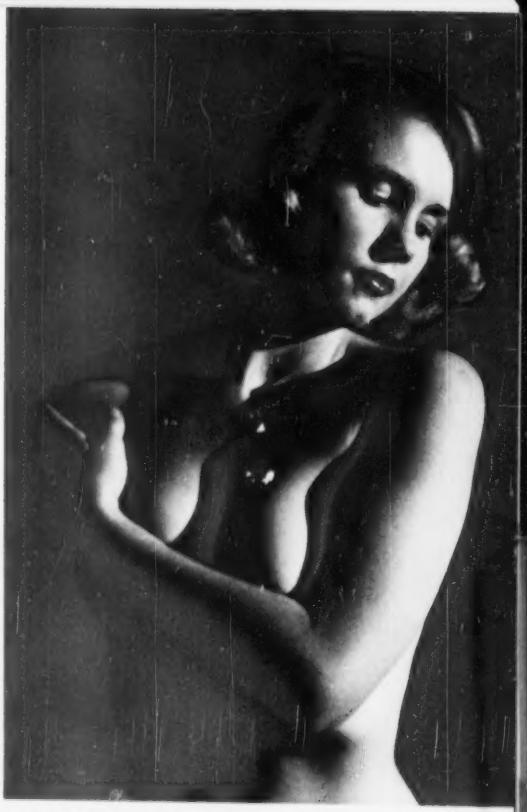
by Frank V. Boran

WAITING FOR HOPPY

by Francis L. Horton

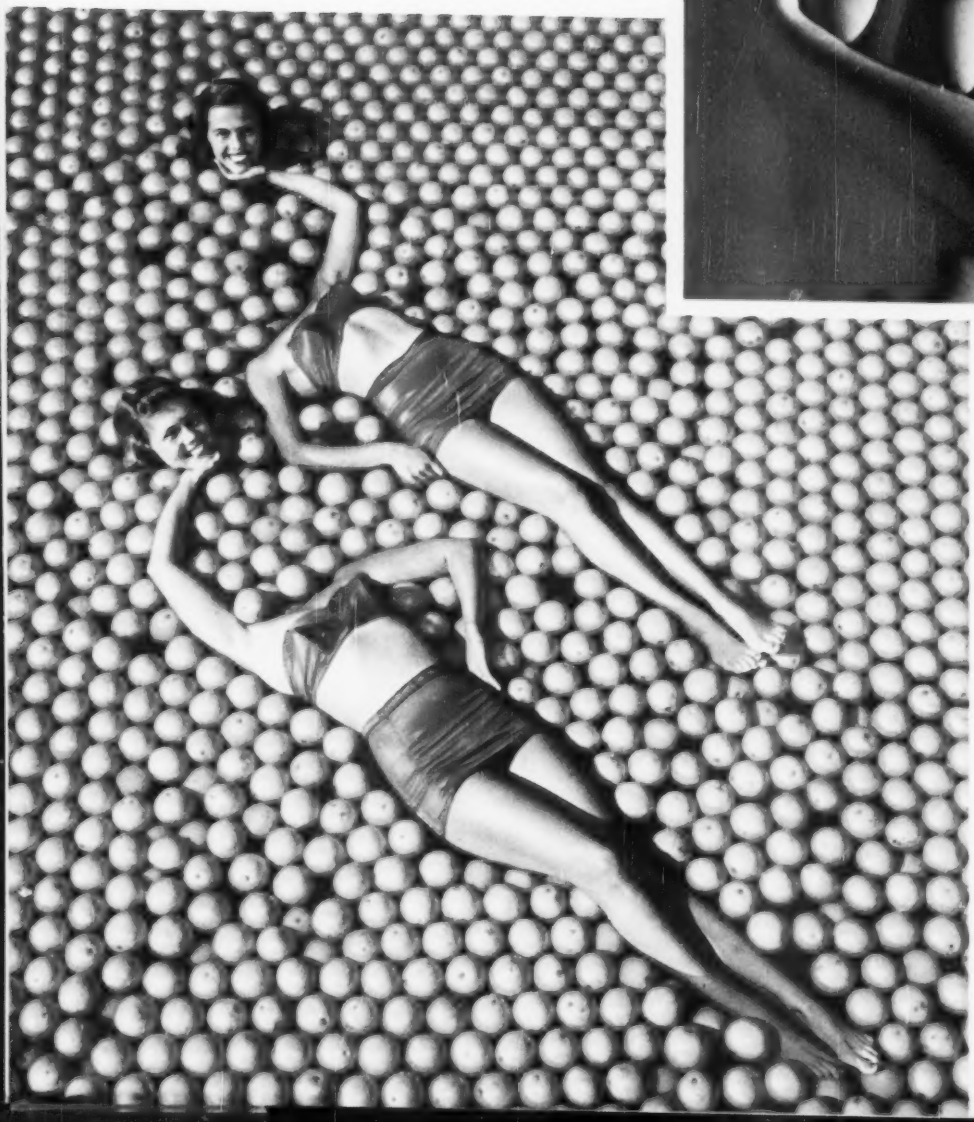
SOLARIZED NUDE

by John McCormick



ORANGE FLOAT

by Joseph Costa



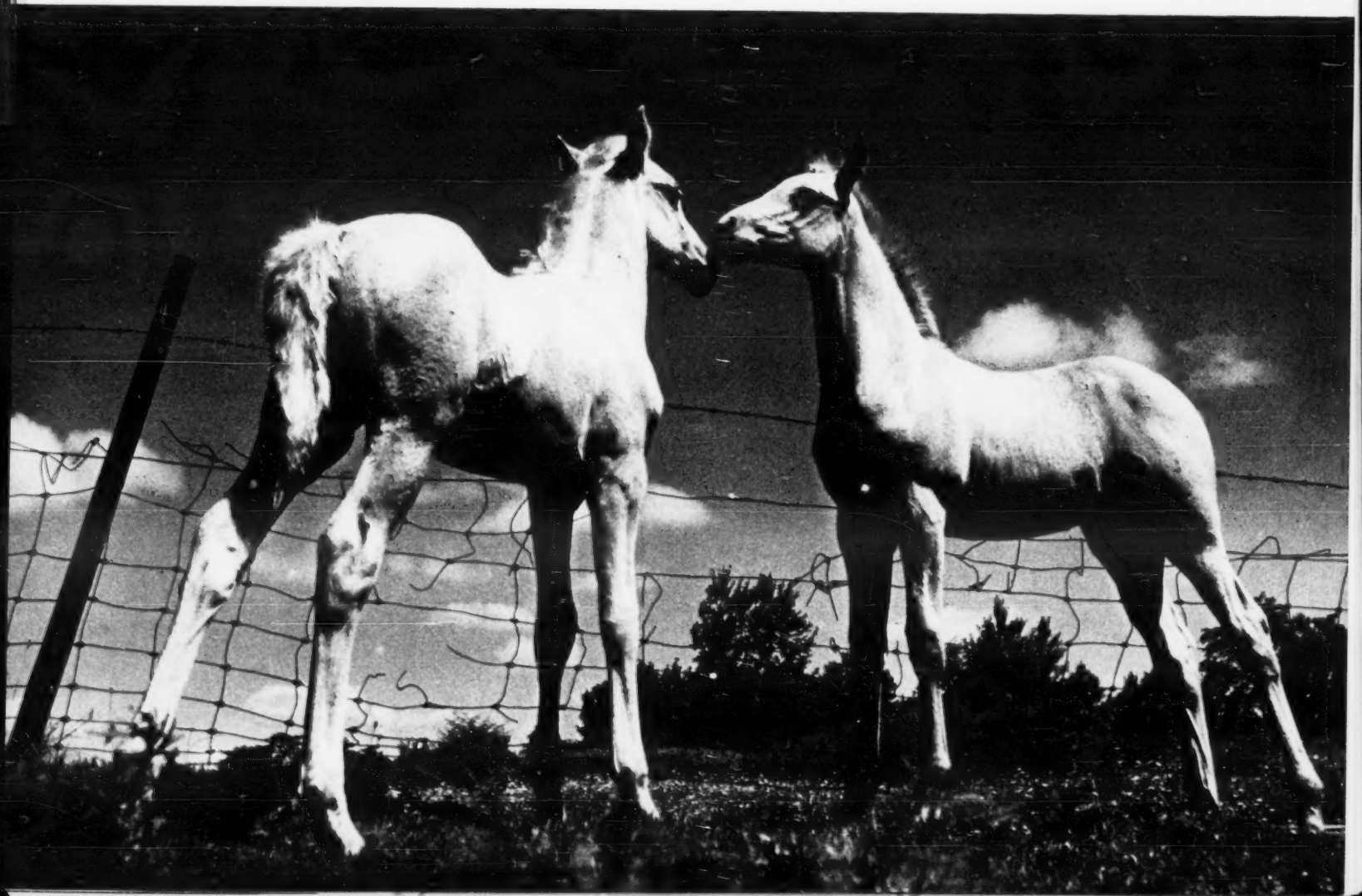
THE BALLERINA by Maria Luisa Padilla

THE MASTER

by Raymond La Marca

CURIOUS COLTS by C. A. Snyder ↓

↑ AT SUNDOWN by Jack Clemmer



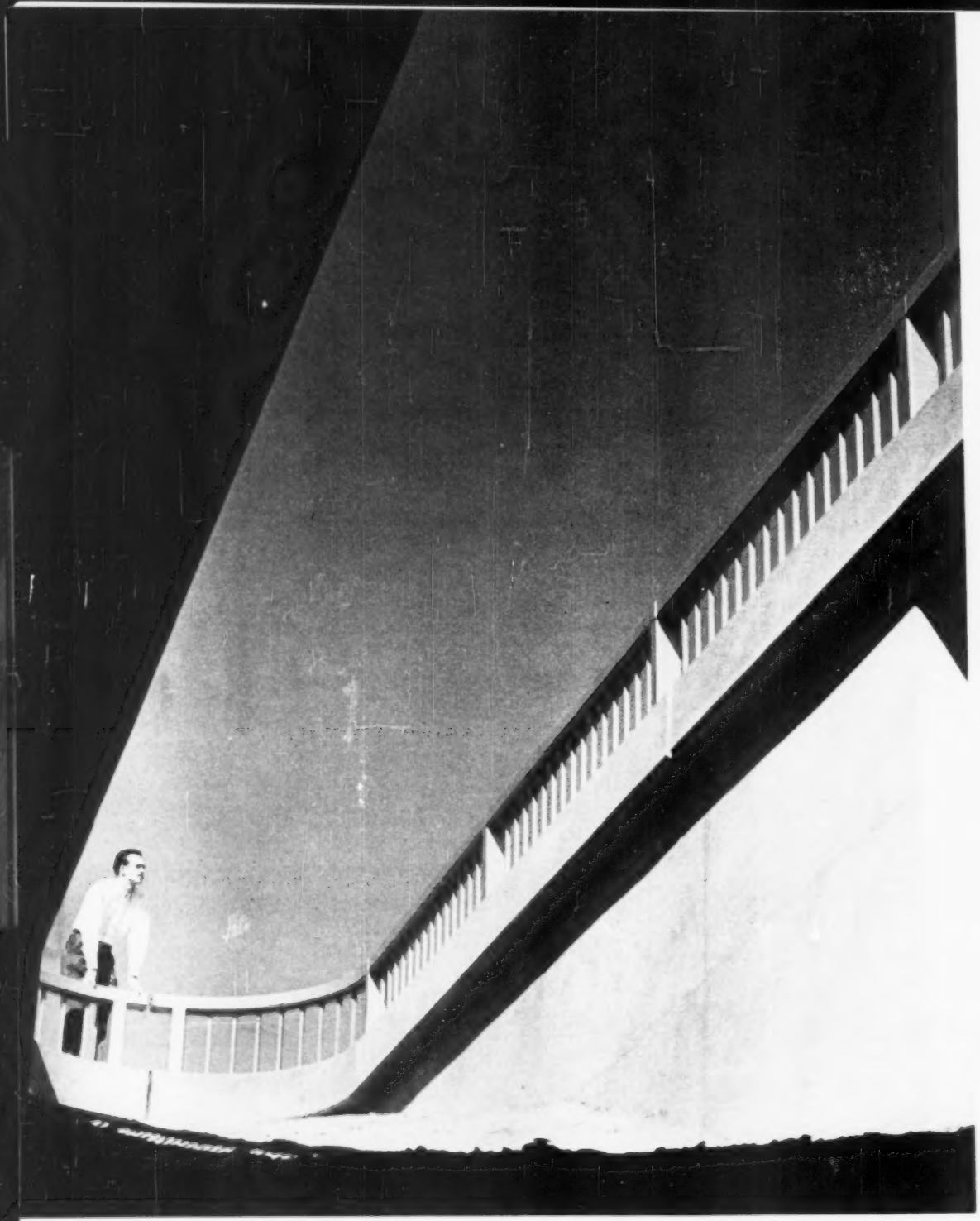
ECSTASY by David A. Murray

EYES IN THE NIGHT

by Homer Heavner

THE PROBLEM by Asad K. Syed ↑

↓ STORM AND THE LEVEE by Julian Kahn



ON THE RAILING by George Bow

PARIS by Louis Meyer

DENBY

"NO USE FIGHTIN' IT" by Frank Kristufek

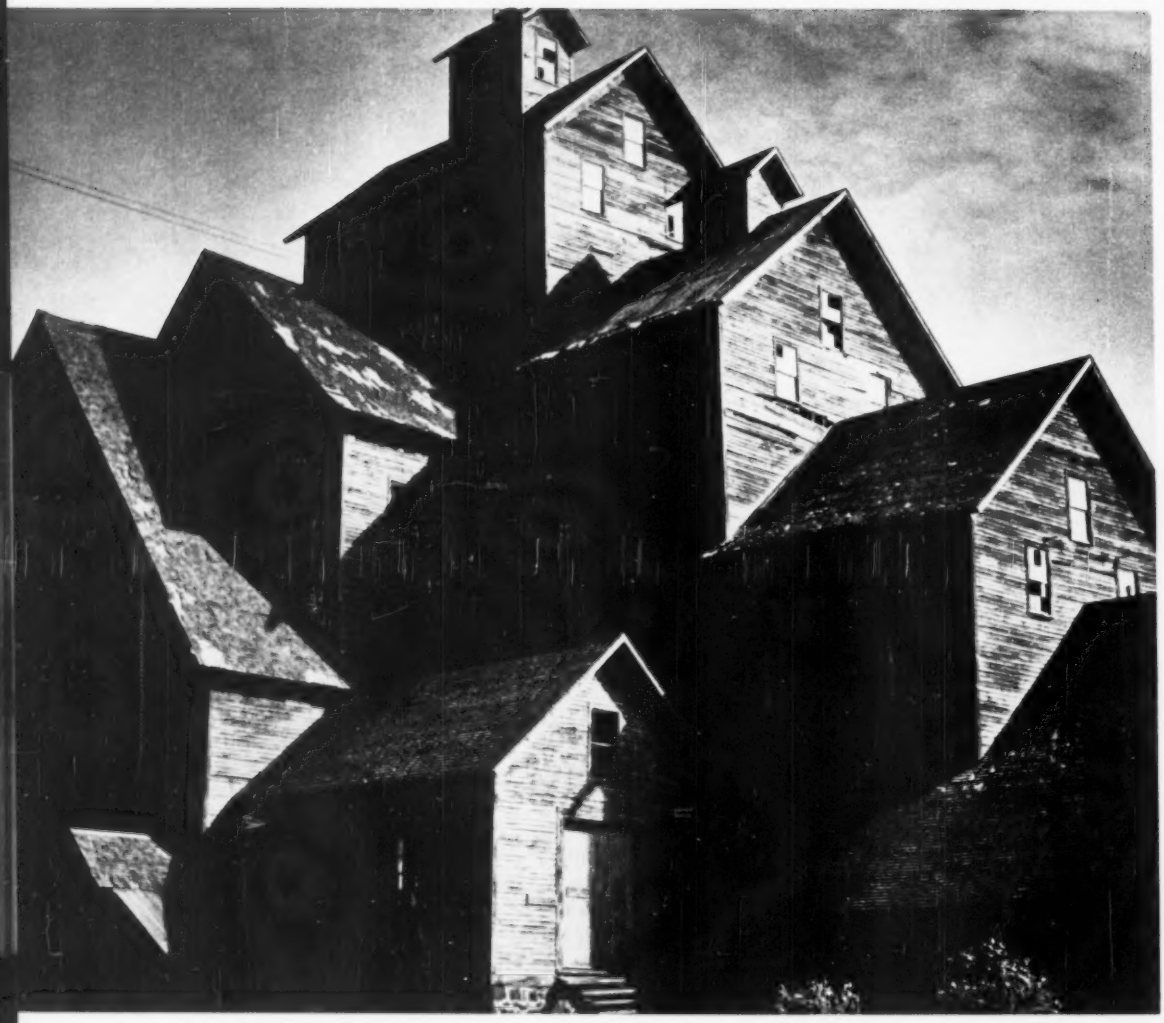
FIRST FORMAL

by Lou Gardner

FELINE by J. H. Poelker

OPUS 301

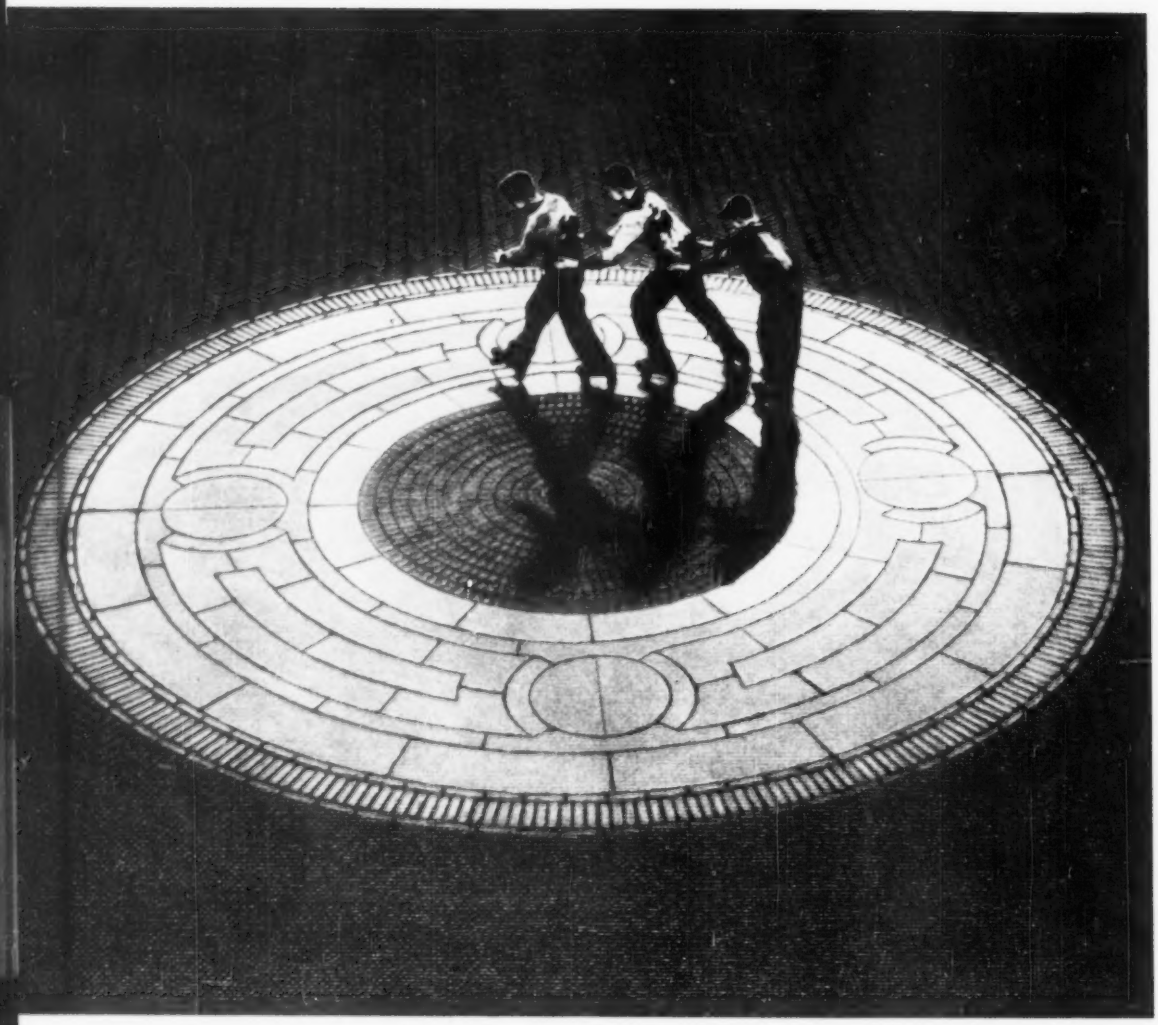
by Jean Elwell



QUINCY MINE by Sarah Martin

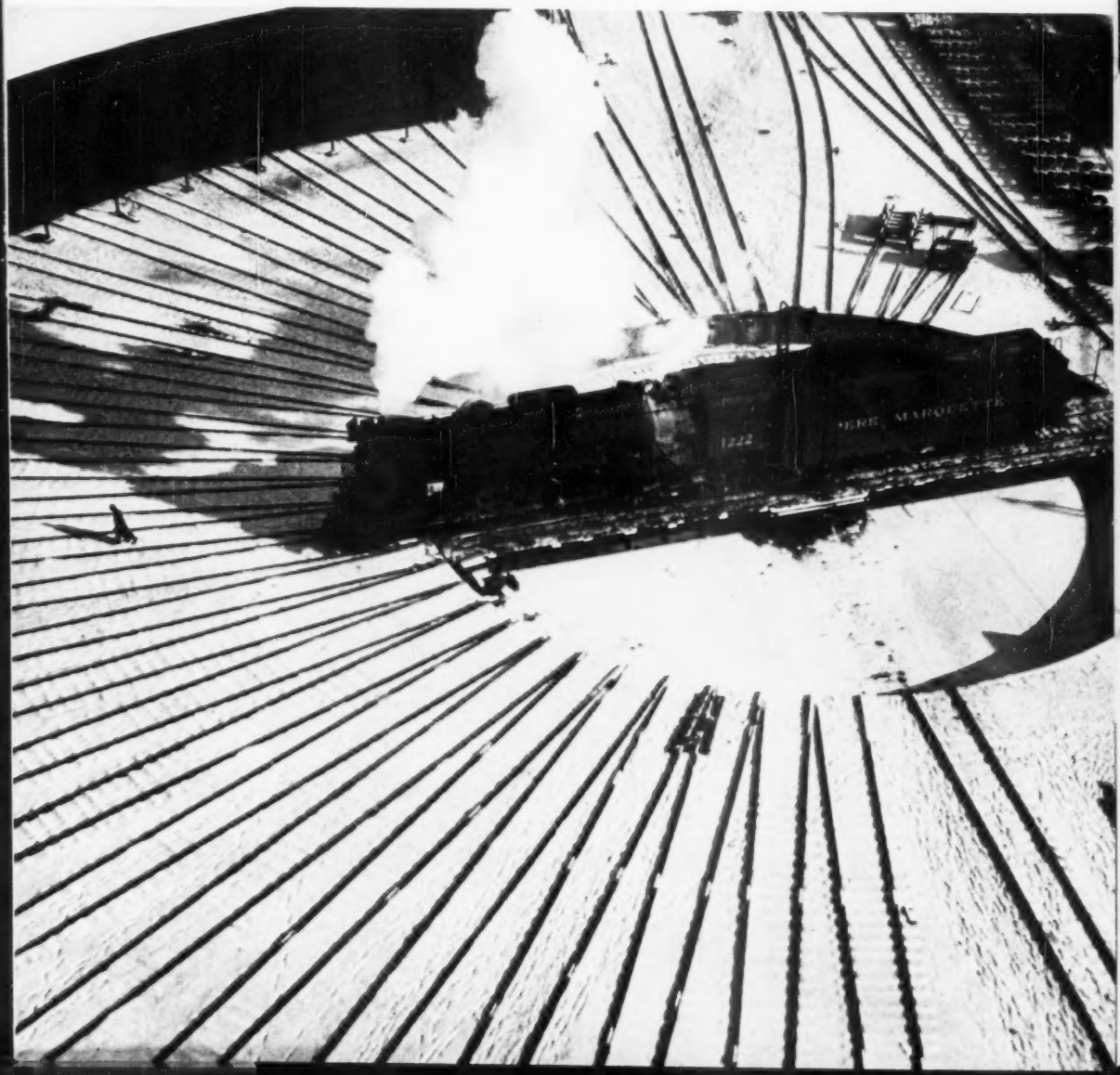
ADVENTURERS

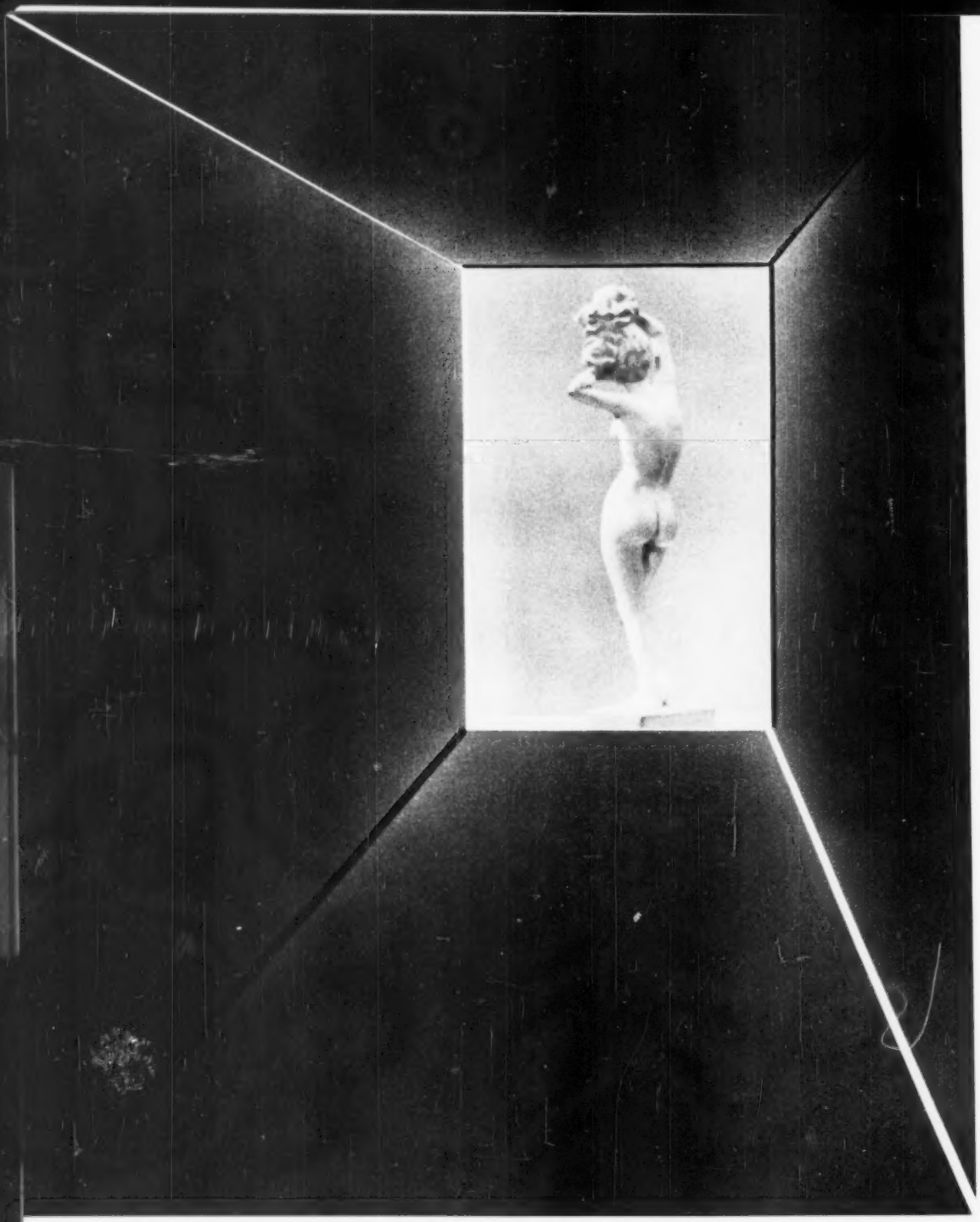
by Dr. M. Tunick



ROLLING AROUND by Wellington Lee

JOURNEY'S END by Lionel J. Tidridge





PERSPECTIVE by E. B. Sigler

CORRIDOR'S END

by Harold H. Hoagland

BASE OF LIBERTY
by Charles O. Hinninger

The gift you never quite give away

THINK *a moment!* When you give a camera to someone you love, it's never quite given away.

Wherever it goes, it sends you back a stream of reminders and rewards . . . perhaps from the boy or girl who takes it away to school . . . perhaps from a friend far away. If it goes to your wife, or husband, it broadens your hobby into a sharing of achievement—makes your picture collection a true partnership.

The camera you give is not given away, and this truth applies to all the other photographic gifts suggested on the following pages. Everyone shares in every gift . . . when you make it a Kodak Christmas. That's a thought worth passing along to the less expert friends who lean on you for photographic advice . . . it will help bring them a better Christmas, too.

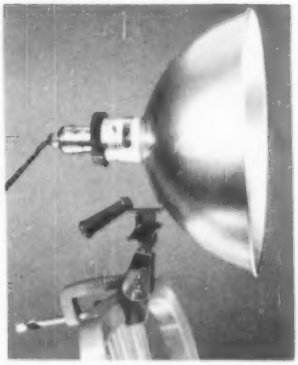
EASTMAN KODAK COMPANY
ROCHESTER 4, N. Y.

Kodak
TRADE-MARK

There's a gift here for every camera fan

PHOTO hobbyists know the importance of protection for their fine equipment—and that's why a camera case is always a welcome gift. Kodak cases are quality-made all the way through; all leather and fabrics are thoroughly tested, ruggedly stitched; linings are tough and scuff-resistant; some cases have concealed steel shells for extra protection.

For such quality, prices are very reasonable. The Field Case for the Kodak Pony 828 Camera (at left) is only $6.50; Kodak Filter Cases (right) are $4 and $4.75. There's a case for every Kodak camera.



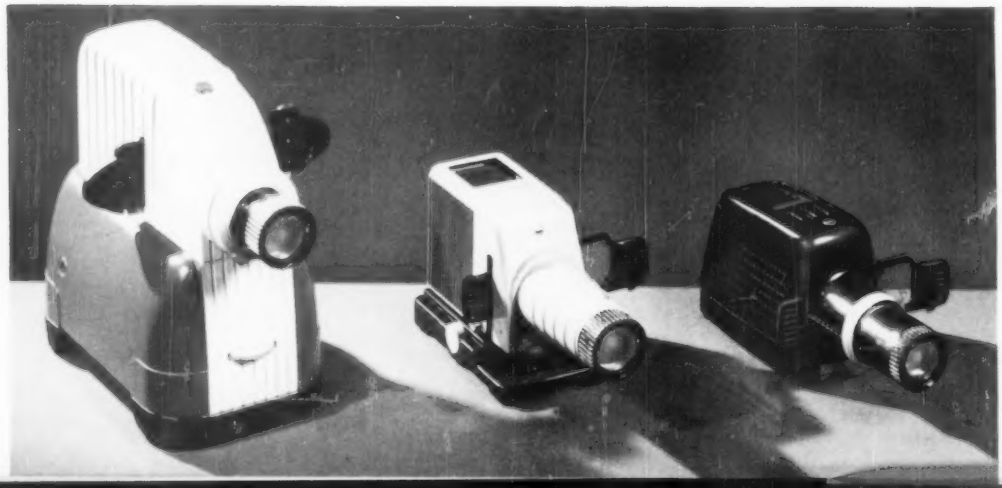
NO serious amateur photographer ever has all the lighting equipment he'd *like* to have. So, a Kodak Vari-Beam Clamplight (at left, $9.75) or Kodak Vari-Beam Standlight ($15) are always choice gifts. They accept No. 2 flood lamps, have big aluminum reflectors, and adjust for a wide or narrow beam.

A Kodak Flasholder, Model B, with Flashguard ($11.50) teams well with a modern flash-synchronized Kodak camera (and there are inexpensive Flasholders for some Brownie Cameras). To anyone who already has a Kodak Flasholder, give the Kodak Flasholder Extension Unit, Model B (at right, $12.75); it permits lighting effects that aren't possible with a single flash mounted on the camera.

GOOD miniature color transparencies deserve the best in viewing equipment—and that means *Kodaslide* equipment. Watt for watt, this equipment yields screen performance far beyond its price.

Kodaslide Projector prices start at only $29.50 for the compact, 150-watt Model 1A (bottom right) which has an *f* 3.5, *Lumenized*, Kodak Projection Ektanon Lens. The popular Model 2A (below, center) is $49.50 with 5-inch *f* 3.5 Kodak Projection Ektanon Lens; and the Kodaslide Projector, Master Model (below, left), is $165 up, depending on which of five superb Kodak Projection Ektar or Ektanon Lenses you choose.

Kodaslide Table Viewer, Model A (at left), is a handsome desk or table unit for individual or small-group showings; it combines projector, slide-changer, and screen, and operates in fully lighted rooms or offices. The price, $95. Kodaslide Table Viewer, 4X (at right), is an efficient, moderately priced unit ($47.50).



The Darkroom Gift That Tops Them All

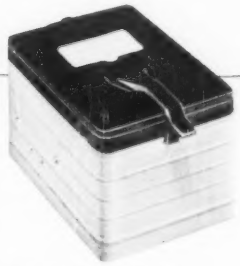
A GOOD enlarger is the heart of the darkroom—it's *the* indispensable instrument for fine work. No other gift brings quite the same thrill to the serious hobbyist—or offers quite the same invitation to distinguished creative achievement.

Which enlarger should you choose? Look at them all, compare features and quality, select the best combination of price and value—and a Kodak Flurolite Enlarger will be saying "Merry Christmas" for you . . . with many a happy New Year ahead.

From the bottom of its big, deep paper-cabinet base to the top of its "integrating sphere" lamphouse, the Kodak Flurolite Enlarger is all efficiency. The heavy-gauge, 40-inch steel column, deep-anchored in the cabinet base, has the steadiness that's essential for needle-sharp enlargements. The lamphouse is supported on solid dual trapezoidal bar frames for extreme rigidity, and is spring-counterbalanced for smooth, precise up-and-down movement, at a finger's touch on the vernier elevation controls.

This enlarger always runs cool—no baking or buckling of negatives—and the ring-shaped fluorescent lamp yields the brilliance and contrast, both actinic and visual, that you'd expect from a condenser enlarger. The negative carrier is circular, and can be rotated 360 degrees; this, with the tilting negative carrier platform, permits correction of distortion in all planes. Bellows draw is long, giving wide choice of magnification and reduction; and a full range of fine Kodak Enlarging Ektar and Enlarging Ektanon Lenses is available. The price, $112.50, without lens.

★ *To fit a smaller gift budget, see the Kodak Hobbyist Enlarger—only $49.50 with lens.*



Check These, Too

EVERY darkroom enthusiast needs a good contact printer, such as the Kodak Home Printer (above). It accepts negatives up to 3¼x5½ and 4x5, paper up to 5x7, and has provision for strip printing of miniature negatives. $12.50.

Enlarging is easier when both hands are free for dodging or other manipulation—and a Kodak Utility Footswitch ($10) accomplishes just that.

Precision timing of prints and enlargements is assured with a Kodak Electric Time Control ($13.50). It can be set for "single" or "repeat" timing.

Some darkroom chemicals stain clothes—so a Kodak Darkroom Apron is always a thoughtful gift. Two sizes, $2.25 and $3.

Solutions are always being poured in darkroom work—and the clever three-way Kodak Combination Funnel assures tidy operation. 85 cents.

Everybody has good intentions with regard to filing negatives—but a Kodak Negative File helps assure that the job's done properly and safely. Wide range of sizes up to 5x7 inches, $2.25 to $3.25.

SENSITIZED paper makes a perfect gift. To the hobbyist, a box of Kodak Opal or Kodak Platino or Kodabromide Paper is the canvas for tomorrow's pictures—it's a boxful of creative opportunity. Find out the favorite brand and surface—select a 250-sheet box of 8x10, a 50-sheet box of 16x20, or whatever quantity your gift budget indicates. No matter how much or how little, it will be welcome.

★ **New—three wonderful Kodacraft outfits to introduce your boy or girl to darkroom work. Kodacraft Printing Kit, only $4.50, for the fun of print making. Kodacraft Photo-Lab Outfit, $7.95, for both film developing and printing. Kodacraft Advanced Photo-Lab, $13.50, contains all basic developing and printing aids, including both film tank and contact printer. All outfits include Kodak Velite Paper—no darkroom needed! See them at your Kodak dealer's.**

All prices are list, including Federal Tax where applicable, and are subject to change without notice.

Kodak
TRADE-MARK

here are two kits
to give beginners
a running start
...two miniatures
to delight enthusiasts
for color-with-simplicity
...and a folding camera
for someone
who wants simplicity
and versatility, too.
All five will serve well
for years; of course,
right now, they mean...

five Merry Christmases

The Kodak Duaflex Flash Outfit (up left, includes an aluminum pack for the fine new Kodak Duaflex II Camera with Kodet Lens, the Kodak Duaflex Flashholder, two rolls of Kodak Verichrome Film, eight flash lamps, two batteries, a camera manual, and a booklet on picture making, "Photo Tips"). The whole thing, comes to $19.50, and makes a beautiful Merry Christmas.

The Brownie Hawkeye Flash Outfit (up right) is the same kind of great package, built around the sensational new Brownie Hawkeye Camera (Flash Model). With Kodaflex Flashholder, film, lamps, batteries, and booklet, the Outfit price is $17.75.

Either of the new Kodak Pony Cameras (also 135, left and the 828, right) makes a wonderful gift. Both are easy to use, both have Uniomatic f/8.5 lenses, both make ideal cameras for those who enjoy using Kodachrome Film. The Kodak Pony 135 Camera (left) at $34.75; the Kodak Pony 828 Camera at $29.75.

The Kodak Tourist Camera, f/6.3, center, is one of five "Tourist" models. This f/6.3 version is a good all-round pressure-time for Kodachrome Film and slides, with an accessory Adapter Kit ($11.50), you have your choice of four sizes of pictures, including miniature Kodachrome transparencies. Camera, $32.50.

Eastman Kodak Company, Rochester 4, N. Y.

Prices quoted are suggested retail prices. Prices are subject to change without notice.

Kodak
TRADE-MARK

Prize Winners

IN THE POPULAR PHOTOGRAPHY 1950 PICTURE CONTEST

Color

First Prize $2,000
U. S. Savings Bond, Plus Trophy
"JUMPING DOUBLE" by Glen Fishback
Sacramento, Calif. (page 77)

Second Prize $1,000
U. S. Savings Bond, Plus Trophy
"MODEL AND MOTIF" by Walter E. Owen
New York, N. Y. (page 78)

Third Prize $750
U. S. Savings Bond, Plus Trophy
"ON THE WING" by Hal Rumel
Salt Lake City, Utah (page 79)

Fourth Prize $500
U. S. Savings Bond, Plus Plaque
"CELLAR SANCTUARY" by Sigurd Saxosen
Gladstone, N. J. (page 80)

Fifth Prize $250
U. S. Savings Bond, Plus Plaque
"ST. LOUIS IN THE RAIN" by Sam J. Vogan
Toronto, Ont., Canada (page 80)

50 Prizes U.S. Savings Bonds, each $100.00

"Mara" by Jules Alexander, New York; "Poole's Fish Market" by Jules Alexander, New York; "Reflection" by William Beal, Salt Lake City, Utah; "Capitol View" by George O. Bettridge, Salt Lake City, Utah; "Roses" by Leo H. Bock, Lynbrook, N. Y.; "Jassy and Jennifer" by Frank V. Boran, Los Angeles; "Kaleidoscope" by Will Bragg, Torrance, Calif.; "Prison Vision" by Ro Capotosto, New York; "Orange Float" by Joseph Costa, Rockville Centre, N.Y.; "Ballet Team" by Joseph Costa, Rockville Centre, N.Y.

"Easter Morning" by Charles D'Emery, South Norwalk, Conn.; "The Best Is Yet To Come" by Joseph O. Fadler, Los Angeles; "Ballerina and Baby" by Glen Fishback, Sacramento, Calif.; "Decor" by Leon Craig Forgie, Rochester, N.Y.; "Stillness" by A. Gianni, New York; "Priscilla" by A. Gianni, New York; "The Finishing Touch" by J. Walker Grimm, New York; "Nude" by Theda and Emerson Hall, Hollywood, Calif.; "National" by Dick Ham, Los Angeles; "Intermezzo" by Bob Hill, Detroit; "Waiting for 'Hoppy'" by Francis L. Horton, Chicago.

"Gourmet's Delight" by Kenneth S. Johnson, Binghamton, N.Y.; "Behind the Scenes—40 Winks" by Gillis King, West Caldwell, N.J.; "The Collector" by William Felix Kolar, Berwyn, Ill.; "First-Born" by Maurice C. LaClaire, Grand Rapids, Mich.; (Continued on page 186)

Black and White

First Prize $2,000
U. S. Savings Bond, Plus Trophy
"MY WORLD IS GROWING" by W. Starr Suydam
Madison, N. J. (pages 56-57)

Second Prize $1,000
U. S. Savings Bond, Plus Trophy
"EARLY MORNING CHARGE" by A. Aubrey Bodine
Baltimore, Md. (pages 58-59)

Third Prize $750
U. S. Savings Bond, Plus Trophy
"REFLECTION" by Richard A. Panter
Toronto, Ont., Canada (page 60)

Fourth Prize $500
U. S. Savings Bond, Plus Plaque
"THE WAVE AND THE LIGHTHOUSE" by Laurence R. Lowry
Malden, Mass. (page 61)

Fifth Prize $250
U. S. Savings Bond, Plus Plaque
"PATTERNS ON THE PANE" by Janet Konkle
Grand Rapids, Mich. (page 62)

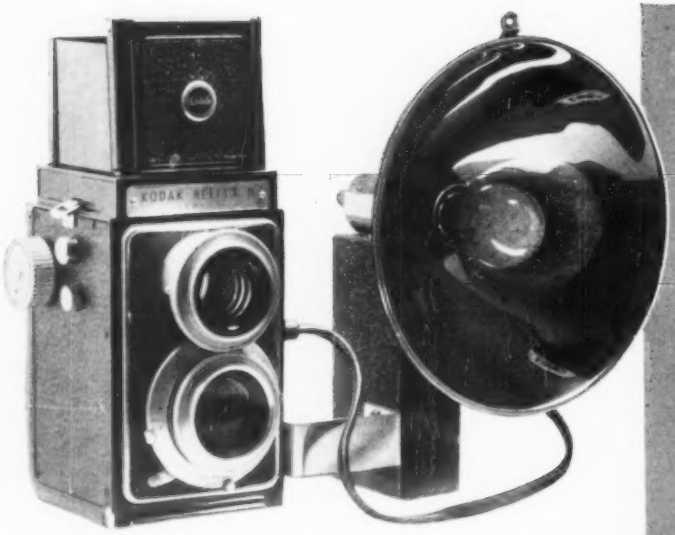
50 Prizes U.S. Savings Bonds, each $100.00

"Flying" by Jules Alexander, New York; "Three Spires" by A. Aubrey Bodine, Baltimore, Md.; "On the Railing" by George Bow, Los Angeles; "Miss and Mass," by Earle W. Brown, Detroit; "Slide, Scooter, Slide" by Patrick A. Burns, New York; "Repose" by Edward Canby, Dayton, Ohio; "Mounted Patrol" by Boris Carmi, Tel-Aviv, Israel; "Satin Slippers" by Raymond Caron, Westmount, Que., Canada; "Summer Breezes" by John E. Carrebye, Copenhagen, Denmark; "Dangerous Perspective" by Joe Clark, Detroit; "At Sundown" by Jack Clemmer, West Richfield, Ohio.

"First Look" by Ben DeBracke, Jackson Heights, N.Y.; "Ascent" by Boris Dobro, Santa Barbara, Calif.; "A Study in Balance" by Albert H. Duvall, Galesburg, Ill.; "Opus 301" by Jean Elwell, Detroit; "Guards' Little Helper" by Sam Falk, New York; "Bubble Bath" by S. W. Flannery, Cincinnati, Ohio; "Spider" by Archibald Fukutami, Wailuku, Maui, Hawaii; "Fascination" by John Gajda, Detroit; "Rescue" by Gretchen H. Gaughnour, York, Pa.; "After Dinner Speaker" by Barbara Green, Brooklyn; "Arctic Noon" by Karl W. Gullers, Stockholm, Sweden; "Swing High" by Siegfried R. Gutterman, Los Angeles.

"Miss Plastic" by Corn. J. Haeck, Amsterdam, Holland; "Eyes in the Night" by Homer Heavner, Canton, Ohio; (Continued on page 186)

All prizes in the 1950 Contest are awarded in the form of United States Savings Bonds, Series E, and are listed here in terms of their maturity value. Winners who are not citizens of the U. S., and hence are ineligible to own these bonds, are awarded cash in the amount of the purchase price of the bonds. Each prize is accompanied by an engraved Certificate of Merit.

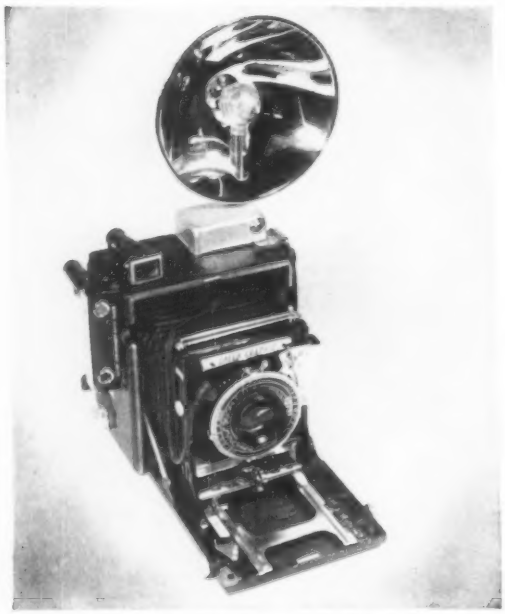


Home-made flashing unit shown mounted and ready for use on a roll-film reflex camera. The single tiny battery employed in the circuit will fire several thousand flashbulbs. Directions for making the unit are given in the text.

MORE POWER FOR FLASH

Here's a battery-capacitor unit that fires as many as four bulbs with up to 100 feet of cord. Build it for use with your synchronized shutter

By LORNA L. SQUIRES



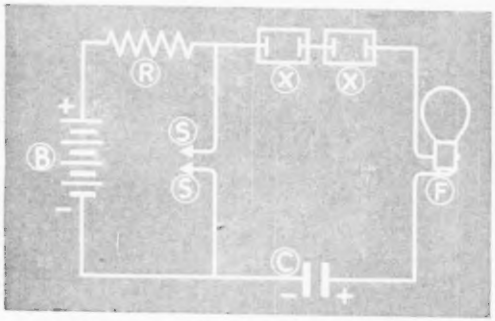
Same circuit is used in this unit, which employs phone-jack for extension work. It is installed permanently on the camera.

HIGH POWER, extremely long battery life, and compactness are combined in the efficient little flashing unit illustrated and described here. The features mentioned result from the use of a simple capacitor circuit. Ordinary home tools and a soldering iron are all you need to make the unit, and the component parts (which will be listed farther along) are not expensive.

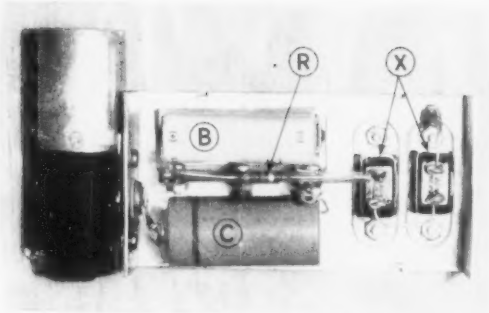
You can expect a lot from this efficient little device. First of all, the single miniature battery which it contains will amaze you by staying on the job for at least a full year (longer for some users). And during that time you can really use it, for the tiny battery is capable of firing several thousand bulbs when used in this capacitor circuit. In addition, it has plenty of power to fire as many as four bulbs at a time, with as much as 100 feet of cord in the circuit.

These facts are an indication of the flashing unit's wide field of application. For instance, while it is small enough to suit even the miniature camera fan, its powerful, dependable, yet economical "big-gun" performance will recommend it to amateur and professional alike for use on their larger cameras.

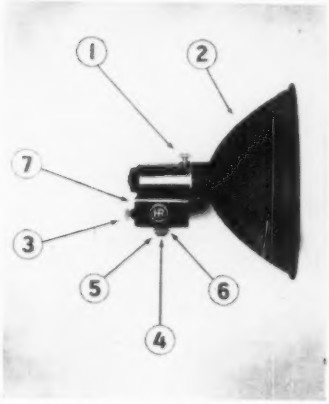
It is acknowledged gratefully that the ingenious capacitor circuit employed here is the one proposed by Paul A. Marsal and William H. Fritz and mentioned in Norman C. Lipton's "Tools and Techniques" column. A schematic diagram of the circuit, as used in the flashing unit, is shown herewith. In operation (see Figure 1), the electrolytic capacitor (C) is charged by a small current, limited by the resistor (R), from the battery (B),



1 Schematic diagram of circuit. B, 22.5-volt battery. C, 25-volt capacitor. F, flashbulb. R, 2500-ohm ½-watt resistor. X, X, extension outlets. S, S, leads to synchronized shutter on camera.



2 Internal assembly of unit. B, battery. C, capacitor. R, resistor. X, receptacles for extensions. Socket housing for reflector is at left, bolted to what will be top of housing.



3 Numbered parts of reflector assembly are cited in text. The white line (7) shows where to saw casting off.

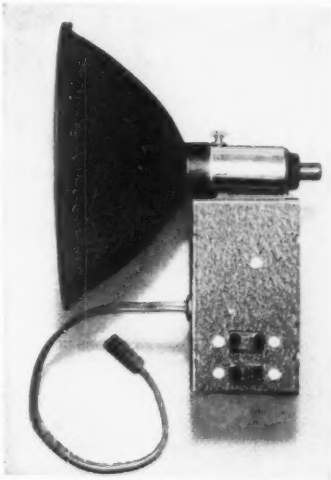
4 Hacksaw is used to cut across base. Then vertical cuts are made to make sides of casting flush with box top.

5 Insulated terminal strip assembly, and side of box showing holes drilled for cutting the receptacle aperture.

when the flashbulb (F) is inserted in the socket of the reflector. Then, when the synchro-shutter contacts (SS) are closed, the circuit is completed and the condenser discharges, firing the flashbulb. Additional bulbs connected across the extension outlets (XX) will, of course, be fired simultaneously. When only the one bulb is to be flashed the extension receptacles are bridged by the "jumpers" described later.

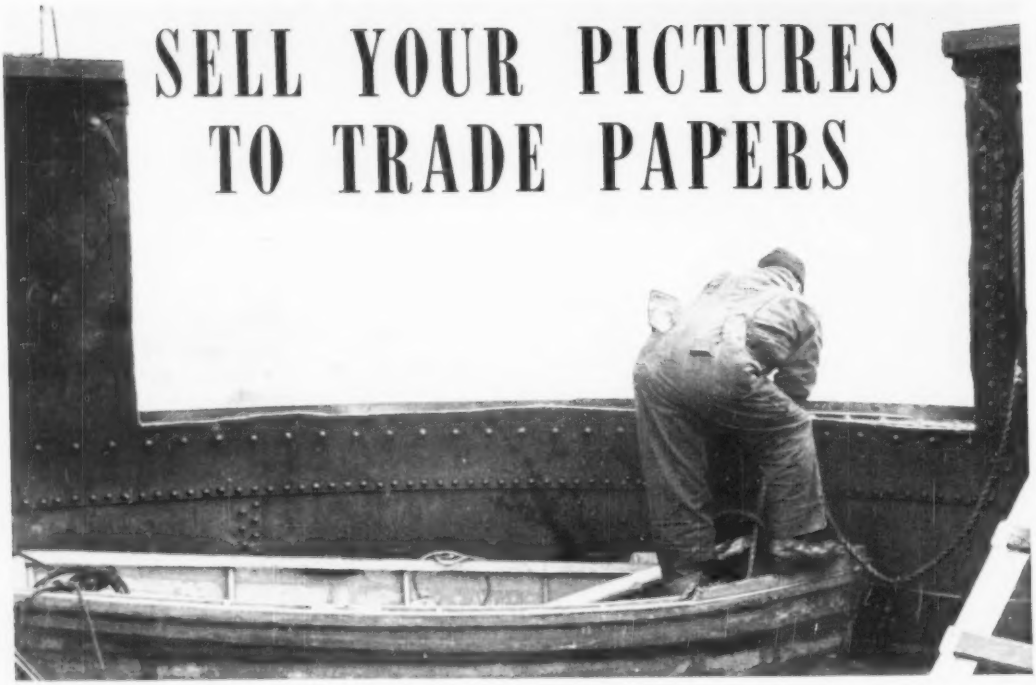
A trial unit using the Marsal-Fritz circuit was built into an aluminum cigarette case and installed under the rangefinder on a press-type camera. This proved so amazingly efficient that the conventional (flashlight-cell) flashgun and the "booster" battery previously used with it for multiple flash hook-ups were promptly and permanently retired. Incidentally, the battery from this original outfit has now been in use for considerably more than a year and is still firing the usual three bulbs every time. At first an attempt was made to keep a careful record of how many bulbs it fired, but actual count was lost many months (and many cartons of flashbulbs) ago!

The unit shown attached to the twin-lens reflex was designed recently to provide several improvements over the first model. Here are some of the features you will notice in the photos, and which will be especially appreciated by those building and using this rig. The black crackle finish of the reflector is matched by the same finish on the box chassis, which contributes to a neat and trim appearance for the completed project. The use of standard receptacles (clearly seen in Figure 6) will enable many photographers to use extensions they already have, and also allows the ordinary floor or table lamp to be utilized (for supplementary flash) when (*Continued on page* 152)



6 Completed flashing unit as viewed from left side. Entire cost of component parts is under ten dollars.

SELL YOUR PICTURES TO TRADE PAPERS



Pictures with unusual slants sell readily. When an Erie, Pa., contractor razed the city's 125-foot standpipe, his acetylene torch welders cut steel—and costs—by working from rowboats floating on water inside the tank. The shot was a natural for construction papers.

Here are tips on how to cut yourself a slice of the millions of dollars spent annually by 1500 trade papers for photo-stories

By WALTER RUDOLPH

Illustrations by the Author

AMATEUR PHOTOGRAPHERS daily pass up thousands of pictures that, they think to themselves, aren't fitted for anything since they possess neither album interest nor salon possibilities. And right then they fail to realize they are probably passing up a neglected, hungry market. Yes, ladies and gentlemen, editors of trade papers annually spend several million dollars for pictures and texts—and the subjects they are interested in are all around you!

For instance, what's the construction news in your community? A new hotel, restaurant, college, factory, wallpaper store, photo studio, bridge, sewage system—any one of these is of interest to its respective trade paper. Snap a picture, preferably with people in it, make it into an 8x10 glossy print and send it off with a brief, explanatory caption. One of the nice features of selling to trade papers is that if one editor doesn't want to buy your picture, another similar magazine in the same field might snap it up.

But we're getting ahead of ourselves. Before we go into detail, let's consider these editors. There are about 1,500 of them, with offices principally in New York and Chicago. The larger trade papers (they are really magazines, you know, but the term is commonly used) have several editors, but you can generally hit the nail on the head by addressing yourself just to the "Editor."

A trade paper editor must fill his monthly magazine with pictures and articles of interest to a particular trade. For instance, *Mill and Factory* concerns itself with all kinds of industry, production and management problems, new buildings, new methods, better ways of doing something, manufacturing on a profitable basis. It is theoretically interested in every factory in the country, and of course there are thousands, some of them near you. The editor of *Mill and Factory* will happily pass out some of that green stuff to you when you send him photos and captions he can print.

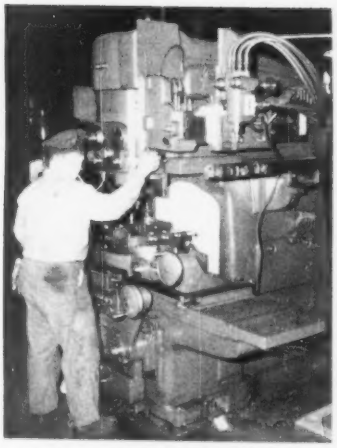
Likewise, *Restaurant Management* is interested in anything that would appeal to its readers: restaurant managers, chefs, owners of restaurant properties; *Woodworking Digest* wants pictures and articles on woodworking plants, unique procedures in this trade, and so forth; *Wallpaper Magazine* is looking for pictures and text on successful wallpaper stores, their selling methods, etc.; *Hardware Age* wants pictures of unusual hardware store promotions, or show windows. . . And we haven't scratched the surface.

"So what," you ask me, "can *I* do about it? I'm not familiar with any trade or business other than my own. I'll bet it is pretty tough going to find subjects, and then a long gamble to sell the pictures you take!"

Let me assure you, it's as simple as falling off the proverbial log, as anyone knows who has given it a sincere trial. You can fatten your purse with checks from trade paper editors. I've developed my own "talents" along this line to the place where photographs alone give me half my income, writing the remainder. It all began about 10 years ago when I snapped a few pictures of a small swimming

Restaurant and tavern trade papers like to show new and interesting interiors—with people in natural activities.

Interior of frozen food locker plant shows points of interest to the trade, including the latest in ceiling cold plate systems.



Show as much as possible of a particular piece of machinery. Here a new milling machine installation is illustrated.

pool in New Wilmington, Pa., got some information, and sent the work to *American City* magazine with a little note. "You *gotta* buy this!" The editor came across. (I didn't even own a camera yet, had borrowed one.)

Surely any amateur photographer with a grain of curiosity in his head can cash in on trade paper sales. In other words, you have to be interested in what you are doing. When you snap trade paper photographs, you must do so with the knowledge that the picture must tell a story, or part of a story; it must impart information to the person who looks at it in the interest of his own business.

For example, I pick up a copy of *Hatchery Tribune*, one of the trade papers that uses free-lance pictures and text. Let's look at some of the pictures here. Right away we see on the magazine cover an exterior view and an interior shot of a new hatchery. This hatchery is reputed to be up-to-the-minute in design, with many points of interest to those in the hatchery business. The pictures, which practically any amateur could take with a half-way decent camera, reveal to the readers as many details as possible. They take readers right to the scene and show them what they want to see.

Again, let's glance through this copy of *Locker Operator* which circulates among men and women who own or manage frozen food locker plants. It so happens (*h'mm*) that this issue has my story and pictures on a plant in Union City, Pa., that is practically a model of its kind for a small community. Pictures of bookkeeping procedure, smoke house, sales room, and processing of meat for freezing help to tell the story. Get the idea?

Financial returns? You can realize from $1 to $5 and sometimes better, on pictures sold to trade papers. Say you get a pretty good subject and shoot from three to five pictures with various points being stressed in the different shots. You give the editor a good selection and he buys four photographs at $3.25 each, totaling $13. You are on the ball and also send in good caption material, bringing your check to $20. That buys a lot of groceries, my friend. Or more film, paper, and bulbs!

Another thing: in the process of getting acquainted with a store or plant manager, and getting across the idea that you would like to take some pictures and submit them to a trade magazine, you often arouse (*Continued on page* 208)

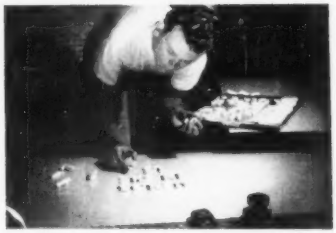
Idle fishing boats on a Lake Erie waterfront were shot to point up results of a fishing strike. A close-up including several idle-handed fishermen, however, might have told the story better.

Charles Kennedy, sightless worker in an electrical manufacturing plant, assembles couplings and drops them in a pan on his lap. Such shots sell to industrial and rehabilitation journals.

Tabletop Titles

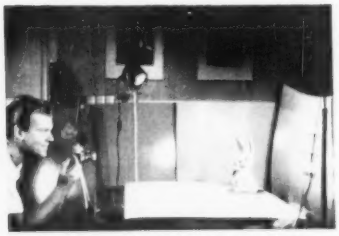
By ROLLAND MORRIS

Here are ways you can pep up your slide shows with simple props and letters in colorful titles

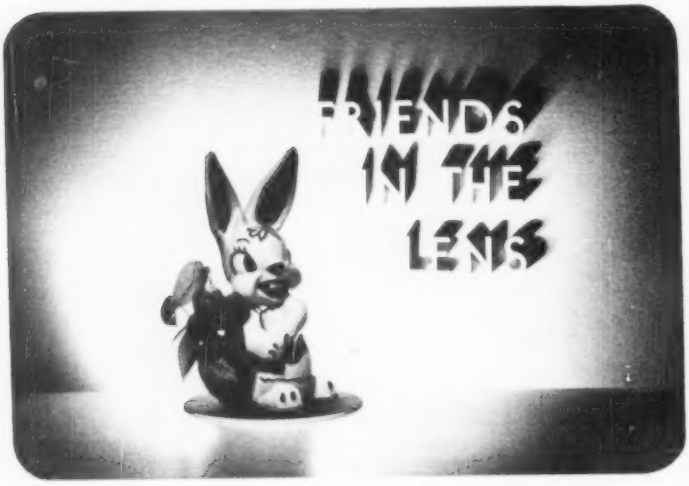


Title letters are positioned on background material, and attached to it.

The prop is added to setup, and carefully placed for maximum effectiveness.



Lights are placed for desired effect; film is exposed after a meter reading.



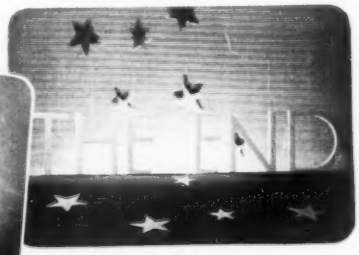
Attractive slides, when used as titles, can help dramatize your home showings. Simple props add a final touch to imaginative set designs.

SLIDE SHOWS are good entertainment, but they can be made even more enjoyable and attractive by using titles with them. Family and friends will get more fun out of seeing a group of transparencies that have been cataloged and introduced by clever, imaginative titles. The time and effort expended by the amateur photographer will be more than repaid by the flattering comments of his audience.

Tabletop titles are the easiest to make, and offer the greatest challenge to the photographer's ingenuity. A small space will accommodate a tabletop setup, and no special equipment is needed to make the slides. If you don't have floodlamps the titles can be photographed easily outdoors, in a back yard, or on a sun porch. I used a card table indoors, and employed book-ends, Christmas decorations, toys, books, and ceramic pieces for props. Careful planning was necessary to determine the type of titles I wanted, and what materials I would need to get the desired result. After designing the setup and the slides, I went out to buy the simple supplies needed to augment the props I had.

I bought six sheets of 30x40-inch posterboard of various colors, and made sure they were dull-finished, since "glazed" board picks up the reflection of the lights, making only side-lighting possible. I wrote out the legends I wanted to use, and bought white tile letters that (*Continued on page* 164)

Other designs utilized book-ends, ceramic figures, Christmas decorations, and silver-foil stars as props, with various colored backgrounds. You can find many articles in your home which will make interesting props.



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GENERAL ELECTRIC

Meet the PRIZE WINNERS

In Our 1950 Picture Contest

IT'S always interesting and encouraging to others to know something of the background and ambitions of top prize winners in any big competition. Accordingly, we wrote each of these prize winners in the POPULAR PHOTOGRAPHY 1950 Picture Contest, asking for a portrait and condensed biography. Not one of them was informed that he or she might be in line for a specific award or prize—merely that the Contest judges were considering one of the entrant's pictures. All complied with our request, and we present in the following paragraphs a brief "pen-sketch" of the top five winners in black-and-white and color, compiled from the data which [illegible]

First prize in [illegible] white division of the Co[illegible] [illegible] by W. Starr Suydam for his p[illegible] appealing picture, "My World is Growing." Suydam, an amateur, says that he has been "serious" for about 15 years" in the field of photography. He was born in Englewood, N. J., but in 1948 moved to Madison, N. J., where he and his wife and two small sons now live. His pictures have been published in photographic magazines and annuals, a number of newspapers, and in the house organ of Bell Telephone Laboratories, where he is employed as a designer of mechanical and electronic devices. Suydam's experience in photography is extensive, covering study with some of the leading instructors in the field, exhibiting in salons for several years, lecturing to various clubs, and teaching classes in photography. In addition to being a member of the Photographic Society of America and the Royal Photographic Society of Great Britain, he holds or has held office in several local photographic organizations, besides taking an active part in civic groups in his community. Another of his pictures has also been awarded a prize in this Contest's black-and-white division.

Suydam

A. Aubrey Bodine, of Baltimore, Md., winner of the second prize for his outstanding black-and-white picture, "Early Morning Charge," has a comprehensive background in his chosen field. He has been a professional photographer for about 27 years, and for 10 years has been director of photography for the *Baltimore Sunday Sun Magazine*. Well-known as a salon exhibitor and for the technical quality of his prints, Bodine's work has achieved wide recognition in photographic circles. He is likewise known as a consistent prize-winner. He was awarded first prize in the black-and-white division of the POPULAR PHOTOGRAPHY 1948 Picture Contest, in addition to several other prizes in that contest, and his work has appeared in POPULAR PHOTOGRAPHY at various times. Among his memberships in photographic organizations are: Photographic Society of America (Fellow); National Press Photographers' Association; Baltimore Camera Club. Bodine is a native of Baltimore, is married and has one small daughter. One other of his black-and-white Contest entries is also a prize-winner.

Bodine

Winner of the third prize in black-and-white for his striking, high-key "Reflection" is Richard A. Panter, of Toronto, Ont., Canada, who has been taking pictures for 25 years, and has been a salon exhibitor during the past two years. In addition, his pictures have appeared in a photographic magazine, club periodical, and salon catalogs. Panter is a civil engineer with the Department of Highways of the Province of Ontario, where part of his work involves the interpretation of aerial photographs in studying soil conditions ideal for highways. He is a member of the Toronto Camera Club and was awarded the Club Trophy in 1949 and 1950. Born in Calgary, Alberta, he now lives in Toronto, is married and has two children. In addition to third prize, two more of his black-and-white photographs were awarded prizes in this Contest.

Panter

Fourth prize in the black-and-white division goes to aerial photographer Laurence R. Lowry for his starkly dramatic "Wave and the Lighthouse." Lowry has been a photographer for about 20 years, became a professional seven years ago, and is now owner and operator of an aerial photo business in Malden, Mass. Part of his earlier experience included publicity photography for the Boston Garden, covering ice shows and hockey games, prizefights, and other sports events. His photographs have been published in a number of national magazines, among which are *Flying*, *Time*, *Fortune*, *Architectural Forum*, and various trade publications and newspaper rotogravure sections. He has done much high altitude infrared aerial photography and aerial color work, and is so deeply interested in the various phases of his vocation that it absorbs most of his time. Lowry was born in Sawyerville, Quebec, but has not lived there since he was six years old; he and his wife and three sons reside in Melrose, Mass. Two more of Lowry's black-and-white shots are among our 1950 Contest winners.

Lowry

Janet Konkle's wistfully reminiscent "Patterns on the Pane" won fifth prize in black-and-white for her. Mrs. Konkle, a former elementary school teacher, is a housewife in Grand Rapids, Mich., where she was born. She has been interested in photography since her high school days, when she was "snap editor" of the school Annual. Her serious consideration of camera work as an avocation, however, began in 1948 with her winning of a cash award in a snapshot contest. Her photographs have appeared in *Parents Magazine*, *Mechanix Illustrated*, *The Chicago Tribune*, and *The Grand Rapids Herald*. Mrs. Konkle is president of the Amateur Photo Club of Grand Rapids, and secretary of the Grand Rapids Camera Club; she has won awards from both organizations. She also won two other prizes in the black-and-white division of this Contest. In addition to her camera activities and keeping house for her husband and three children, Mrs. Konkle has turned her hand to writing books for youngsters, with photographic illustrations by herself. She specializes in making portraits of children.

Mrs. Konkle

First prize in the color division was awarded Glen Fishback for his captivating picture, "Jumping Double." A native son of California, Fishback was born in Orange. He now lives in Sacramento, with his wife and two children, and maintains his studio in that city. He is a professional photographer, specializing in portraiture, wedding, and illustration work, and his activities include general free lancing in photography and photographic articles, as well as teaching. In the latter field, he has had considerable experience, especially in the handling of short, concentrated courses for small classes. Fishback was at one time a news photographer, but decided that he preferred to be in business for himself. His articles and pictures have been published in numerous photographic magazines and annuals, and his work has appeared on covers of POPULAR PHOTOGRAPHY and other national publications. He has been a winner in various contests, including three previously held POPULAR PHOTOGRAPHY competitions, and is a member of the Photographic Society of America and of the Photographers' Association of America. An instruction book and other books on photography, which he expects will be published soon, have been among Fishback's most recent projects. Another of his color shots was awarded a prize in this Contest.

Fishback

(*Continued on page 223*)

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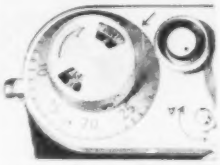

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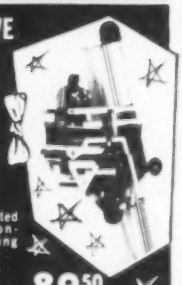

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2"x3", Pacemaker SPEED GRAPHIC, ctd. f4.5 Ektar, Flash Supermatic Shutter, flash gun	179.50
4x5 MERIDIAN, f4.5 Ilex, Kalart rangefinder, flash shutter	149.50
4x5 SPEED GRAPHIC, f4.5, Kalart rangefinder, synchronizer	139.50
4x5 B&J PRESS, f4.5, Wollensak coupled RF, solenoid gun	129.50
4x5 Pacemaker SPEED GRAPHIC f4.7, Kalart RF, solenoid gun	189.50

Average Shipping Weight 12 lbs.

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2"x4", GRAFLEX B Revolving Back, f4.5 Kodak Anastigmat	49.50
3"x4", GRAFLEX C Revolving Back, f2.5 Taylor Hobson Cooke	99.50
3"x4", GRAFLEX D Revolving Back, f4.5 Kodak	84.50
3"x4", GRAFLEX SUPER D, f4.5 ctd. Kodak Ektar, built-in flash, automatic diaphragm control	149.50
4x5 GRAFLEX B Revolving Back, f4.5 Kodak Anastigmat	69.50
4x5 GRAFLEX B Revolving Back, f4.5 Bausch & Lomb Tessar	74.50
4x5 GRAFLEX D Revolving Back, f4.5 Kodak Anastigmat	99.50
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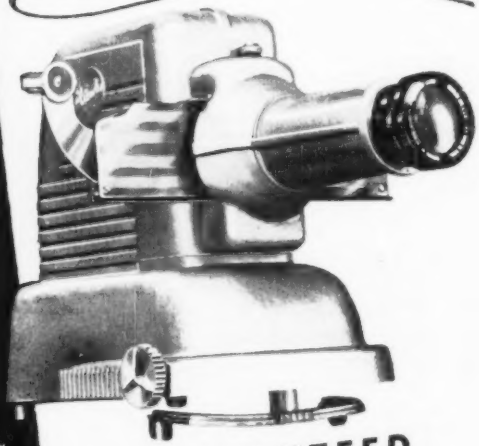

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The V-3 features the 5" Retar f3.5 lens. The V-33, the 5" Luxtar f3.5. Both are fully coated and color corrected. They are distortion-free; give you maximum clarity. Other lenses in different focal lengths are also available.

HOW COOL DOES IT RUN?

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IS IT EASY TO OPERATE?

Sets up in a jiffy. Heavy duty "iron out" slide carrier holds 2 slides in 2x2 glass or cardboard mounts—flattens warped slides automatically. One's ready while the other one's being shown. Effortless focusing gives you hairline sharpness. Front knob tilts projector to desired level.

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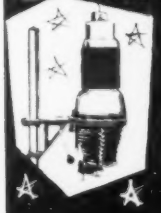

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BALDAX, 2¼x3¼, f4.5 Anast.	24.50
KODAK DUO 620, 1¾x2¾, f3.5	39.50
KODAK VIGILANT 620, Kodet	17.50
KODAK MEDALIST, 2¼x3¼, f3.5 std. Ektar, coupled R.F.	99.50
KODAK MEDALIST II, 2¼x3¼, f3.5 std. Ektar, cpld. R.F., bilt-in flash	169.50
KODAK MONITOR 620, 2¼x3¼, f4.5, Kodamatic	49.50
KODAK TOURIST 620, 2¼x3¼, f6.8, built-in flash	27.50
KODAK TOURIST 620, 2¼x3¼, f4.5 std., built-in flash	49.50
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ZEISS IKONTA B, 2¼x2¼, f4.5	32.50
ZEISS SUPER IKONTA B, 2¼x2¼, f2.8 Tessar, cpld. R.F.	119.00
ZEISS SUPER IKONTA BX, 2¼x2¼, f2.8, Tessar, cpld. R.F., bilt-in meter	159.50
ZEISS SUPER IKONTA A, 1¾x2¼, f3.5, coupled R.F.	69.50
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Average Shipping Weight 5 lbs

Used SLIDE PROJECTORS

ARGUS PA, 100 Watts, 2x2	18.95
B&H DUOMASTER, 300W, 2x2, Lens	69.50
GOLDE NU-MANUMATIC, 300 W	39.50
GOLDE REFLEX, 300 Watts, 2¼x2¼	49.95
GOLDE MASTER, 500 Watts, takes up to 2¼x4 slides	47.50
KODASLIDE 2A, 150 Watts, 2x2	29.50
KODASLIDE MASTER, 1000 Watts	99.50
KODASLIDE TABLE VIEWER	69.50
LA BELLE, 500 Watts, 2x2, automatic slide changer, blower	59.50
SKAN, 100 W, 2x2, blower cooled	16.95
SKAN, 200 W, 2x2, blower cooled	24.50
SVE ENTERTAINER, 300W	47.50
SVE Model AAA, 300 Watts, 2x2 slides and 35mm strip film	49.50
SVE Model RR, 100 Watts, 2x2	17.50
SVE SLIDETTE, 150 Watts, 2x2	14.95
TDC STEREO, 500 Watts, blower	119.50
VIEWLEX AP-3, 150 Watts, 2x2	26.50
VIEWLEX AP-5, 150 W, 2¼x2¼, for Rolle-flex and similar 2¼ square transparencies	34.95

Average Shipping Weight 10 lbs

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GENERAL ELECTRIC PR-1 with micro-dent light attachment, complete	32.50
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WESTON Cadet Meter	21.50
WESTON MASTER Model II (Still)	29.67
WESTON MASTER III (Cine Model)	29.67

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ELWOOD STUDIO 6-2, 5x7, 100 W	57.50
FEDERAL 269, 2¼x3¼, f6.3 lens	24.50
FEDERAL 315, 2¼x3¼, f4.5 lens, condenser included	64.50
FEDERAL 470, 4x5, f6.3, condenser	84.50
KODAK PRECISION, 2¼x3¼, cond.	79.50
OMEGA B, up to 2¼x2¼, condenser	69.50
AUTOMEGA B3, up to 2¼x3¼, autofocusing, with condenser	119.50

Average Shipping Weight 60 lbs

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B&H FILMO COMPANION, f3.5	49.50
B&H FILMO SPORTSTER, f3.5	64.50
B&H TRI-LENS, turret model, f2.5 matching viewfinder	99.50
lenses, matching viewfinders	174.50
B&H MAGAZINE-8, std. f1.9	109.50
BOLEX L8, f2.8 Kern Yvar lens	67.50
BOLEX H-8, f1.9, 3-lens turret frame counter	169.50
CINE KODAK B-20, f3.5	24.50
CINE KODAK B-35, f2.7	37.50
CINE KODAK B-60, f1.9 focusing	49.50
CINE KODAK MAGAZINE B, f1.9	99.50
CINE KODAK RELIANT, f2.7 coated	54.50
DEJUR CITATION, f2.5, self-loading	42.50
DEJUR MAGAZINE, turret, f1.9 std. and f1.9, f3.5 std. telephoto	139.50
DEJUR MAGAZINE, turret, f2.5 std.	99.50
KEYSTONE K8, f1.9 Wollensak	34.50
KEYSTONE K8, f2.3 Wollensak	34.50
KEYSTONE K36, f1.9 std.	47.50
KEYSTONE K22, f1.9 std. focusing	59.50
KEYSTONE K36, f2.5 std.	37.50
KEYSTONE OLYMPIC, f1.9 std. lens	57.50
REVERE 99, turret, f2.8 and f1.9, f3.5 focusing telephoto lens	89.95
REVERE RANGER, f2.5 std.	37.50
REVERE MAGAZINE, f1.9 std.	59.50
REVERE MAGAZINE, turret (3 lens) f1.9 std. and f1.9, f3.5 std. telephoto lens	149.50

Average Shipping Weight 10 lbs

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AMPRO AE, 750 Watts	94.50
B&H FILMOMASTER, 400 Watts	99.50
DEJUR 750 W, still and reverse	89.50
DEJUR 1000W	109.50
KEYSTONE R8, 500 Watts	49.50
KEYSTONE K-68, 750 Watts	69.50
KEYSTONE K-108, 750 W	79.50
REVERE 90 Deluxe with case	79.50

Average Shipping Weight 25 lbs

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B&H FILMO 70, f2.5 T.M.C.	54.50
B&H FILMO 70D, f2.5 T. H. Cooke	119.50
B&H AUTOLOAD Magazine, f1.9	119.50
BOLEX H-16 built-in frame counter, std. f1.9, std. 3, f2.5, std. 12mm f2.7, all lenses NEW	275.00
CINE KODAK B, f1.9 focusing lens	49.50
CINE KODAK K, f1.9 focusing lens	84.50
CINE KODAK M, f3.5	29.50
CINE KODAK MAGAZINE 16, f1.9	109.50
KEYSTONE A-3, 3 speeds, f3.5	42.50
KEYSTONE A7, 7 speed, f1.9	62.50
KEYSTONE A-12, turret, f1.9 std.	89.50
KEYSTONE K-50, Mag., f1.9 std.	99.50
REVERE 16, Magazine, std. f2.5	79.50
REVERE 16, Magazine, std. f1.9 foc.	109.50
SIMPLEX POCKETTE, f1.9 focusing	69.50
VICTOR 3, f1.9 Wollensak	74.50
REVERE 16, Mag., turret, std. f2.7	99.50

Average Shipping Weight 15 lbs

Used 16mm PROJECTORS

AMPRO IMPERIAL, 750 Watts	129.50
BELL & HOWELL 57, 400 Watts	57.50
B&H DIPLOMAT, 750 W	129.50
KEYSTONE A-74, 300 Watts	34.50
KEYSTONE K-160, 750 Watts	74.50
KODASCOPE B, 300 Watts	49.50
KODASCOPE EE, 300 Watts	49.50
KODASCOPE 16-10, 750 Watts	84.50
KODASCOPE 16-20, 750 Watts	129.50
REVERE 48, 750 Watts	89.50

Average Shipping Weight 35 lbs

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BELL & HOWELL 179, Sound-Silent	325.00
AMPRO CENTURY 5, 750 Watts	195.00
KODASCOPE 1540, Sound-Silent	189.50
REVERE, Lightweight, 750 Watts	179.50
VICTOR 40, Sound-Silent	149.50

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CAMERA CLUBS

Stereo Attracts Many

With the increased interest in stereo photography in modernized form, camera club officers would do well to foster interest in three-dimensional pictures. In most localities now there are individuals or small groups whose major photographic activity is in the stereographic field and all too often these people find no place in camera clubs. Extend a welcome to them and you may add some new and active members to the club roster.

It may well be that within your present organization there are sufficient members interested in stereo to warrant the formation of a special group or division. Investigate the possibilities. In addition to making some new friends and evolving an unusual program feature, you're likely to learn something about stereo technique yourselves. Set aside and publicize one or two stereo nights, and you may be surprised at the amount of interest in this subject.

Florida Club Editor Aims to Please Readers

In a commendable effort to give his fellow-members exactly what they want, Editor Jack Craig of the *Coral Gables (Fla.) Camera Club's* "Shutter-Times" has appended a check-list to a recent issue of his bulletin. Allowing no words Craig asks his readers to indicate "like or dislike of various stated columns, departments, and other features appearing regularly, and individuals are given their choice of signing their ballots or remaining anonymous.

A partial listing of the items to be answered "yes" or "no" includes "Should we carry advertisements? Should they appear on the front page? On the back page? Is the editorial style too breezy? Too dignified?" Space is provided for suggestions on how to improve the paper, and following the specific list of queries concerning the bulletin itself is another which deals more generally with club policy and operation. When the returns are in, the *Coral Gables* officers will have a valuable profile of the membership.

Judging from what crosses this desk each month, a few more club bulletin editors would do well to sample reader opinion in this manner. Editor Craig is sure to learn exactly what his readers want, and thus be able to increase interest all along the line. It's scarcely necessary to stress here the value of an interesting club bulletin in strengthening the entire organization.

Holiday Suggestions to Clubs

Well, here comes Christmas, whether you're ready or not, and it seems appropriate to suggest a few ways in which a camera club can do something about it.

First of all, consider the shutters and figure out what your same can do to bring them a little holiday cheer. Several active clubs throughout the country have year-around programs going, whereby they show slides, prints or movies to hospitalized persons or to invalids who are confined to home. Surely your own organization can arrange something of this sort if you haven't gotten into it yet. Slides and movies make the biggest hit, of course, but you can also entertain with prints, explaining where and why and how the pictures were made.

Another worthy club project is pictorial coverage of neighborhood and community holiday events. Possible camera subjects of this kind include children's parties at school or church, street or building decorations, and flash pictures of tots as they "talk to Santa" in the toy department. Photographic coverage always is welcome at church or the Y.M.C.A. when Christmas events are held.

In some localities Santa always manages to come to town via train, disarming the train at the next stop up the line, being welcomed by an awed turnout of kids at the depot. On such occasions there's plenty of interesting stuff to shoot. And if you want to warm a proud parent's heart, get a shot of the young hopeful as he or she actually sees St. Nick descend to the station platform.

Your camera club has great possibilities as an instrument of good will in the community. The holidays are an ideal time to quickly do some real public relations work as a group. So get a club Yuletide project under way right now!

We Hear . . .

THAT a new camera club, *Rosewood Photographic Group*, has been formed in Los Angeles. Sponsored by the Rosewood Methodist Church, this nondenominational organization meets each Tuesday evening at 501 N. New Hampshire Ave., Los Angeles 4, Calif. Free instruction is offered, plus the use of darkroom and lighting equipment. I predict a rapid rise in membership for this aggregation.

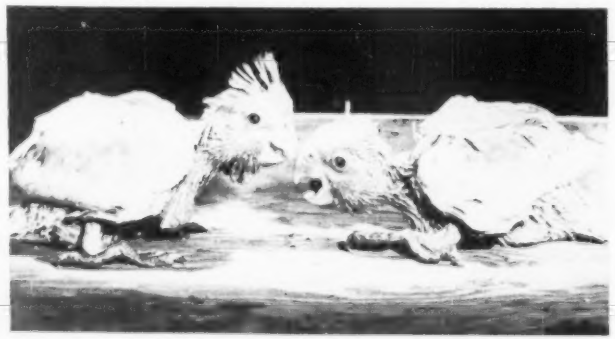
Asheville (N.C.) *Photographic Society's* Second International salon was hung this year in the Battery Park Hotel, where it got a big play. So high was the quality of the prints that several visitors were amazed to learn that the work hung was mostly amateur. In such ways is our hobby given added stature.

Novel idea: *North Shore Camera Club* (Salem, Mass.) lists the names of those members who have paid their dues. Pretty good psychology, when you come to think of it.

From the print data listed in a certain club paper not long ago: "This print was made in a Rolleiflex." They got them accepted for direct positive paper now.

As expressed so aptly by President Bob Wiles of *Springfield (Mass.) Photographic Society* recently: "Photography is not a spectator sport." We'd all do well to keep that in mind particularly during the holiday season. So load up and get set . . . and Merry Christmas to you all!

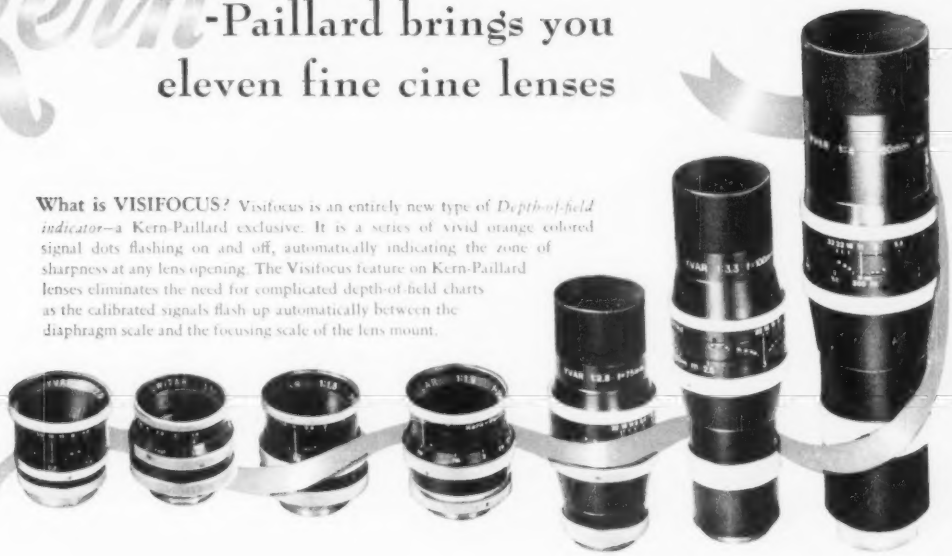
—*Walt Hilliger*



Now Lissen is the title of this picture by Gene Lyle of San Diego, Cal., which took second place in the international zoo photo contest sponsored by Chicago Nature Camera Club and Chicago Zoological Park at Brookfield, Ill. Conducted like a salon, the contest attracted entries from all over the world.

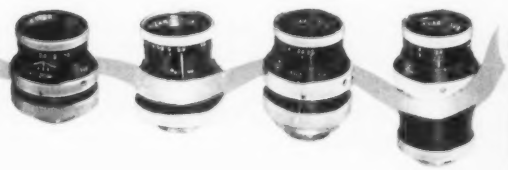
Kern-Paillard brings you eleven fine cine lenses

What is VISIFOCUS? Visifocus is an entirely new type of *Depth-of-field indicator*—a Kern-Paillard exclusive. It is a series of vivid orange colored signal dots flashing on and off, automatically indicating the zone of sharpness at any lens opening. The Visifocus feature on Kern-Paillard lenses eliminates the need for complicated depth-of-field charts as the calibrated signals flash up automatically between the diaphragm scale and the focusing scale of the lens mount.



		Focal Length	Aperture	Mount	Weight	Price (incl. tax)
For Bolex H-16 and other 16mm cameras	*Yvar	16mm	2.8-22	"C"	1-3/4 oz.	$ 78.75
	Switar	25mm (1")	1.4-22	Bolex only	5 oz.	185.75
	*Switar	25mm (1")	1.5-22	Bolex only	5 oz.	119.50
	*Pizar	26mm (1")	1.9-22	"C"	5 oz.	97.00
	*Yvar	75mm (3")	2.8-22	"C"	5-1/4 oz.	99.50
	*Yvar	100mm (4")	3.3-22	"C"	6 oz.	123.50
	*Yvar	150mm (6")	4-32	"C"	7-1/2 oz.	169.50
For Bolex H-8, L-8 and other 8mm cameras	Switar	12.5mm (1/2")	1.5-22	ASA	2-1/4 oz.	124.00
	*Pizar	12.5mm (1/2")	1.9-22	ASA	2-1/4 oz.	98.50
	Yvar	25mm (1")	2.5-22	ASA	1-3/4 oz.	58.50
	Yvar	36mm (1 1/2")	2.8-22	ASA	2 oz.	68.50

All of the superlative Kern-Paillard lenses are, of course, hard-coated and all have built-in or attached sunshades. The 3", 4" and 6" tele lenses come in handsome, hand-made leather cases. Kern-Paillard lenses fit most other movie cameras too!—see your Bolex Dealer.



The Bolex H, in 16mm and 8mm types, now in three different models—De Luxe at $318.00, Standard at $282.50, and Leader for only $244.75 less lenses, no F.E.T.

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- Serves as two cameras, while you buy only one!
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Leica D F3.5 Elmar		94.00	55.00
Leica IIIA F3.5 Elmar cc		122.00	90.00
Leica IIIA F2 Summar cc		139.50	110.00
Leica IIIC F3.5 ctd. Elmar	259.00	169.00	125.00
Leica IIIC F2 Sum'tar ctd.	350.00	229.00	200.00
Leica IIIC F1.5 ctd. Sum'rit	434.00	314.00	230.00
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Leitz Nooky Attach	45.50	32.50	20.00
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Leitz VIII Syncro	63.00	49.00	25.00
Ten Leica Flash	32.50	23.75	15.00
Leitz 2x2 Bindomat	18.00	13.00	9.00
Gen Leica Evready Case	12.30	6.95	
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35mm F3.5 W. A. Elmar ctd.		84.00	60.00
35mm F3.5 W A. Elmar		69.50	50.00
35mm F3.5 W A Sum'ton ctd	123.50	95.50	76.00
50mm F3.5 Elmar Lens		35.00	20.00
50mm F3.5 Elmar ctd. lens	84.00	49.00	30.00
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73mm F1.9 Hektor lens		109.00	80.00
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135mm Hektor F4.5 Tele lens		93.00	65.00
90mm F4 Elmar ctd. Chrome	133.00	98.50	75.00
135mm Hektor, F4.5 ctd.	175.00	109.50	80.00
28mm Zeiss Tessar F8 W A	145.00	72.50	50.00
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Argus C3, F3.5 ctd. Flash cc	59.95	39.50	30.00
Argus 21, F3.5 ctd	60.25	34.50	24.00
Contax IIA, F2 ctd. Sonnar	385.00	255.00	210.00
Contax S Reflex, F2 T ctd. Biotar	475.00	325.00	250.00
Rectaflex F2 ctd. Xenon	295.00	215.00	160.00
Kodak Extra, F1.9 Ektar		278.00	215.00
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Bolsey B2, F3.2 ctd. rfdr	66.90	49.00	35.00
Bolsey Model C 35mm Twin Lens Reflex	99.50	67.50	50.00
Karamat 36, F2 Xenon ctd. Rfdr. Synci-Compur	179.50	119.00	80.00
35mm Argus F.A. F4.5 Ctd. A Flash Shutter	29.95		15.00
35mm Alpa Reflex F2.8 ctd	269.50	169.50	115.00
Perfex Deluxe, F2.8 ctd	69.50	39.00	20.00
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Kodak Pony 135, F4.5 ctd	34.75	24.00	17.00
Kodak 35 w. Rfdr. F3.5 ctd	86.75	55.00	45.00
Kine Exakta I, F3.5 Tessar		99.50	75.00
Kine Exakta I, F2 Biotar		139.50	105.00
Clarus, Cpld. Rfdr., F2.8 ctd	116.25	63.00	45.00
Kardon, F2 ctd. Ektar	299.50	179.50	135.00
Minox Spy Camera		59.50	30.00
Condor Cpld. Rfdr., F3.5 ctd. Filter & case, Comp. Ra'd	105.00		
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Super Ikonta A Special F3.5 Tessar ctd	168.00	109.00	80.00
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Sup. Ikon. BX, F2.8 Tes. ctd	275.00	154.00	110.00
Sup. Ikon. C F3.5 Tes. ctd.	186.00	119.00	80.00
Polaroid Land Camera	89.75	64.50	45.00
Medalist I, F3.5 Ektar ctd.		109.00	80.00
Medalist II, F3.5 Ektar ctd cc	312.50	174.00	135.00
Kodak Tourist, F4.5 ctd.	71.00	55.00	35.00
Voightlander Bessa II Rfdr. F3.5 ctd. Skopar	115.00	89.00	60.00

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Model Argoflex, F4.5 ctd. flashgun case complete	42.98		
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Ciroflex E, F3.5 ctd. Rapax Syncro	113.00	84.00	70.00
Ciroflex F, F3.5 ctd. Rapax Syncro	148.75	109.00	80.00
Ikoflex I F3.5 T ctd. Tessar cc	104.00	79.50	60.00
Ikoflex II, F3.5 T ctd. Tessar	164.00	119.00	90.00
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Rolleicord IIA, F3.5 ctd. Triotar cc Xenar cc	109.00	84.00	70.00
Rolleicord IIB, F3.5 ctd. Triotar, Flash syncro cc	130.00	99.50	75.00
Rolleicord IIB, F3.5 ctd. Xenar, Flash Syncro cc	140.00	105.00	80.00
Auto Rolleiflex, F3.5 T ctd. Tessar		159.00	115.00
Auto Rolleiflex IIB, F3.5 Xenar ctd	235.00	169.50	120.00
Auto Rolleiflex IIB, F3.5 Tessar ctd. And case	275.00	184.00	140.00
Kodak Reflex, F3.5 ctd	95.00	64.00	45.00
Kodak Reflex II, F3.5 ctd cc	154.91	109.00	85.00
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Hasselblad Reflex F2.8 Ektar ctd	548.00		250.00
4x5 Super D Graflex F4.5 ctd. Auto Diaph	259.00	159.00	110.00

PRESS CAMERAS

2¼x3¼ Busch F4.5 Wolf ctd. Rapax w. cpld. rfdr	153.25	108.00	75.00
2¼x3¼ Crown Graphic F4.5 ctd. w. Kalart rfdr	224.80	164.50	130.00
2¼x3¼ Pacemaker Sp. Gr. F4.5 ctd. Kalart rfdr	264.80	179.00	140.00
2¼x3¼ Ann. Sp. Graphic F4.5 ctd. Flash Access		117.00	95.00
4x5 CM Film Pack Camera F4.5 lens FPA		29.50	15.00
9x12 CM Film Pack Camera F4.5 lens FPA		39.50	20.00
4x5 Crown Graphic F4.7 ctd. Ektar cpld rfdr	216.25	174.00	125.00
4x5 Pacemaker Sp. Graphic F4.7 ctd. Ektar cpld. rfdr	261.25	189.00	145.00
2¼x3¼ Century Graph. F4.5 ctd. Trioar, Alphax Sync	99.50		60.00
2¼x3¼ Graph. Roll Film Hk	19.95		

8mm CAMERAS

Revere Model 55, F2.8 ctd.	69.50	44.00	32.50
Revere 88, F2.5 ctd.	72.50	45.00	35.00
Revere Turret 99, F2.8 ctd.	99.50	64.50	45.00
Revere Mag. 77, F2.5 ctd.	99.50	64.50	45.00
Revere Mag. Tur. 67, F2.5 ctd	132.50	84.50	65.00
B&H Sportster, F2.5 ctd.	99.75	66.00	50.00
B&H Auto-Tur. Mag. F2.5	169.50	124.00	90.00
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How to Photograph Your Aquarium

(Continued from page 48)

camera does not stop down beyond *f* 32, you can shoot at 1/200.

Sam Levitz, contributor of outstanding pictures to *Life* magazine, likes to use a Rolleiflex for close-up aquarium shots. Using Kodak Super-XX film, he finds that a single G-E No. 5 flashbulb, placed as described above, calls for an exposure of 1/250 second at *f* 16.

Roy Caples, a commercial photographer with fifteen years' experience, shoots large, densely inhabited aquariums with the aid of two Sylvania No. 3 flashbulbs, the kind used for lighting banquets, football stadiums, and the like. He places one bulb in a reflector which is set up so that its illumination bursts against the wall behind the aquarium. The other lamp, out in front, flashes from either right or left at a 45-degree angle. This setup provides both front and backlighting, insuring even illumination throughout the depth of the tank.

Caples shoots on Kodak Super Panchro-Press Type B film, having an ASA tungsten speed of 100. At a distance of four feet from the tank, he can use his shutter at 1/200 second and still stop down to *f* 45. For relatively slower tungsten-rating roll films such as Kodak Super-XX or Ansco Superpan Press, you will have to open up two or possibly even three stops.

In the event that you cannot easily get No. 3 lamps, you can use Sylvania Press 40's or G-E No. 22's, remembering to open your shutter or reduce your speed to compensate for the smaller amount of illumination. As a matter of fact, I have successfully used three midget gas-filled Sylvania Speed Flashbulbs to get adequate fish pictures. I just place one in a reflector directly over the tank, one at the right front, and the other at the left front—the latter two angled about 45 degrees. Shooting from four feet with this setup, I use a speed of 1/100 second at *f* 22. At two feet and at the same speed, I stop down to *f* 32.

With many box-type cameras and others that do not have flash synchronization, you can still get a picture. Just get set up, then open the shutter, flash your bulbs, and close the shutter. If you have a box camera with two diaphragm openings, use the smaller.

Floodlighting can produce successful fish pictures, but it has some limitations. A working setup might consist of one No. 1 and one No. 2 lamp in reflectors, placed so that the first shines down through the top of the tank, with the second in front at a 45 degree angle. If you have a light meter, set it for the tungsten rating of your film and take a reading. Then, open your lens two stops wider than the meter indicates. This will counteract the ability of the tank water to absorb some of the light from the floods.

If you are working without a meter, try an exposure of 1/100 second at about *f* 16 for fast pan film. Nichols gets good fish pictures on Kodak Plus-X film at 1/100 at *f* 11.

In placing floods or flash, watch for hot spots on the aquarium glass, and avoid too, a head-on placement, which might cause light to bounce off the glass and back into your lens. A lens shade is a handy accessory to use at any time, and especially while stalking Gertie the Goldfish or Angus the Angel.

Aquarium fish, particularly tropicals such as Barbs, Angels, Tetras, and Dempsey, are delicate creatures. Prolonged subjection to merciless floodlighting may cause them to jump out of the tank or die from overheating or fright. Goldfish are hardier, but it is still a good idea to start your lighting setup with ordinary house bulbs and then insert the floodlamps when you have achieved the desired effect. If you happen to own a polarizing screen, you can use it to cut down reflections on the glass at least within the 50 to 57 degree limitations. Floodlighting generally is not as satisfactory as flash because the amount of light available within practical limits is not enough to allow the use of fast shutter speeds to stop swiftly-moving fish. Nor will it allow extremely small stops which are needed to achieve the sharpest depth of field from the front to the back of an aquarium.

Sunlight is even more limiting, but you can use it. Try placing your aquarium so that it will get the direct, slanting rays through a window. You can set it for either front-lighting, side-lighting or backlighting. A meter reading should be compensated by at least two stops.

In Honolulu, the University of Hawaii maintains a public aquarium with some of the tanks strategically placed under skylights. Nichols found that he could shoot them on fast pan film with an exposure of 1/100 at *f* 8 and come up with pleasing results. For those amateurs not using a meter, this is a good basis for experiments with home tanks.

Incidentally, after you have recorded your own or the neighbors' fish, look around for aquariums in such public buildings as libraries and museums. By flash or natural light, you should be able to work quietly enough for even the most sacrosanct atmosphere. And don't overlook the hobby shops and florists—wherever fish are sold. I have found dealers most co-operative in letting me photograph their elaborate aquariums.

Fish photography calls for more than ordinary care in choosing shutter speed and lens aperture. As indicated, good pictures can be made at a speed of 1/100, but better ones can be made at 1/200 second. This is true because fish are restless: they constantly dart about, are always alert and questing. Cameras that do not provide a shutter speed of at least 1/200 second can be speeded up for flash work by using the small gas-filled flashbulbs. These lamps peak at approximately 1/200 and make even a box camera with open flash technique adequate to stop fish movement.

To gain sharp definition from front to back of an aquarium, the smallest stop that you can use and still have sufficient light is the one to employ. I have mentioned using lens openings of *f* 8, 11, and 16. These will help produce good pictures, but they won't give you the needle-sharp images obtained at *f* 45, 32, or even 22. In general, cameras with the shorter focal length lenses, such as miniatures and small reflexes, will give greater depth of field than larger cameras whose normal lenses are of much longer focal length.

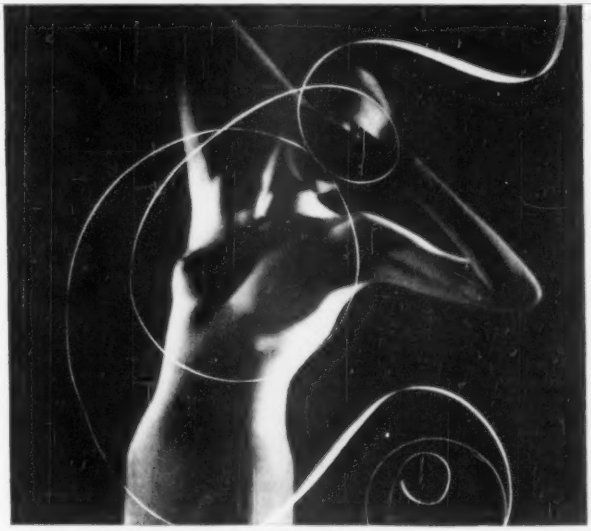
On the other hand, the long-focal-length lens, such as an 8½-inch, enables you to get further back from the aquarium and still maintain the same object size (in this case, fish) that you would have with a short-focal-length lens close to the tank. If you have a long-focal-length lens, try it, remembering to stop down as far as possible.

Twin-lens reflex cameras with their short-focal-length lenses are fine for recording fish. They enable you to concentrate on one corner of a large aquarium or on a portrait of a single fish in a small tank or bowl. The chief limitations of

Paradise fish, photographed by Roy Caples, were stopped with a shutter speed of 1/200 sec. An aperture of *f*/45 brought everything in the tank into sharp focus.

What graduates say about SMP training

Oak Ridge Technical Photographer, T. E. Willmarth: "My SMP training helps plenty! I operate a section, shoot a wide variety of scientific subjects." Above: unscreened amberlite exchange resin, magnification 250X.



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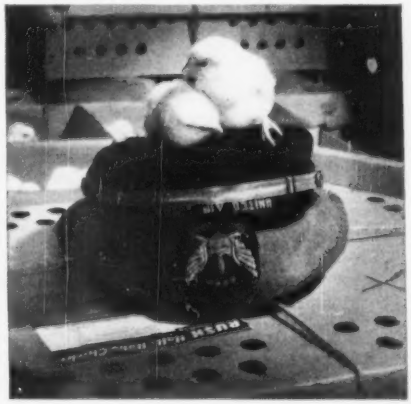
Mexican Travels by Color Photographer, George Avant, produced this shot, originally in color, of Truscan Indian Market, in Patzcuaro. "My SMP training in shooting and printing color deserves chief credit for my present success. Brother David and I can now handle just about every kind of assignment."



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the reflex camera are its square negative and its lack of ability (in stock models) to focus closer than about three feet. By placing an accessory slip-on lens over the regular lens, you can bring it to within a few inches of the tank. Portrait-type supplementary lenses can be used on most cameras that need them. The "plus 1" lens will provide a working distance of about 29 to 39 inches; the "plus 2" from about 15 to 19; and the "plus 3" from 12 to 19. These distances hold true, however, only for cameras that can be focused. For the box camera and other fixed-focus models, the "plus 1" supplementary lens will bring the minimum working distance down from eight to approximately three-and-a-half feet.

In taking fish pictures, a tripod is a definite help in achieving and maintaining sharpness of focus. Even a roll-film camera can be pre-focused by placing it on a tripod, removing the back, putting in a groundglass and then moving the tripod back and forth until the image is sharp. At this point, of course, the tripod must not be moved while you take off the camera, load it with film, and carefully replace it.

At close range, cameras with adjustable focus can be fixed in relation to the fish tank by using a yardstick, steel tape, or even a piece of string to determine the exact distance. If you have a rangefinder, use it to place your fixed-focus camera, which has been improved with the addition of a close-up lens attachment.

Color films really bring out the beauty of resplendent aquarium fish. I have seen successful color slides made with a stereo camera on daylight-type Kodachrome under the same flash and flood conditions previously discussed for black-and-white. The distance from the tank was about three feet, the speed 1/25 second, and the aperture *f* 3.5. Tad Nichols made acceptable color pictures of fish at the Honolulu aquarium with a Leica. He shot at 1/25 at *f* 2, utilizing natural light coming through the skylight and windows. The best color shots of fish are achieved by using blue flashbulbs and tungsten-type film which actually has greater speed than the outdoor variety.

With reflexes and especially 35-mm cameras, Type A color film is effective for open-flash work using clear bulbs. While these work well as is, they can be improved by dipping them in a blue flashbulb dye. Such dyes are available at camera stores. An aperture of *f* 8 or *f* 11 will do the job. Floods are even more limiting for color than for black-and-white. Enough light to expose the film, even at large apertures, would probably be too much light for the health of the fish. And the slower shutter speeds that floodlighting demands would undoubtedly produce some blurring caused by the rapidly darting fish.

All in all, you'll find that aquarium photography is an interesting, stimulating, and challenging experience. It is a fine indoor sport which pays good dividends in the way of unusual pictures. Whether you have rare tropicals or the more common goldfish, there are fascinating photographs to be had.—

Tools and Techniques

(*Continued from page 28*)

"sell" a large segment of serious color photographers in the still and cine fields who have been exasperated by the vagaries of Kelvin-temperature relationships.

The new Bolex cine line with its progression of "convertible" cameras and large array of shooting, editing, and projection accessories is reminiscent of the "Leica approach" to miniature photography popularized in the mid-1930's. Like the Leica camera progression which begins with the simplified Model Ic and works up to the "last word" Model IIIc, the H-8 and H-16 Bolex cine cameras now come in three increasingly refined models—the Leader at $244.75; the Standard at $282.50, and the De Luxe at $318.00. The mechanism and body design of all three models are essentially similar, and, as in the case of the Leica line, owners of simpler models can have their equipment converted to do the work of the more advanced models for the difference in price between them. (The low-cost Bolex L-8 will continue to remain available for 8-mm amateurs—at $99.50 with fixed-focus *f* 2.8 lens and, $119.50 with focusing *f* 2.8 lens.)

As for the ever-growing Bolex accessory line, it now includes selection of seven Kern-Paillard lenses for 16-mm work and four for 8-mm. A new "Octameter" viewfinder shows the fields covered by eight cine lenses with focal lengths ranging from 16 mm to 150 mm. Among the other available accessories are: 8 and 16-mm Bolex projectors; carrying cases for cameras and projectors; the all-purpose Bolex titler, and a heavy-duty splicer. There is also an assortment of accessory viewfinders, focusing devices, levers, handles, releases; also, an angle viewer for "candid" cinematography, plus an ingenious plastic chamber for making underwater movies with the Bolex—the "Visiola" at $332.00. We were advised by Hans Stauder, vice-president and general manager of Paillard Products, New York, that there is still more to come.

Rodenstock Lenses Here? If the plans of one of our active East Coast importers work out, several lenses from the postwar line of G. Rodenstock of Munich will soon be reaching the American market. The prospective list includes three 6-element Heligon lenses intended respectively for 8 and 16-mm cine cameras and for double-frame 35-mm miniatures; a family of four 85 to 95-degree wide-angle Perigon lenses covering film areas ranging from 9x12 cm to 21x27 cm; and finally, a set of eight soft-focus Imagon lenses of unique design covering film areas of from 6x6 cm to 24x30 cm (app. 10x12 inches). The general strategy of the importer is to emphasize lenses that fulfill a definite need here. The 50-mm, *f* 2 Heligon in Compur shutter, for example, is intended to fill in for the Schneider Xenar lens which is in short supply because of overextended commitments. The soft-focus Imagon lens, which comes in eight focal lengths from 120 to 480 mm, services the entire press and view camera field; per-

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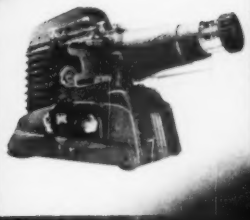

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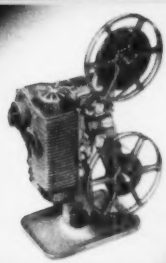

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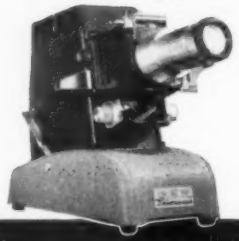

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forated annular disks between the lens elements spill light into the shadows to create the softness desired. Since the perforated rings reduce the amount of light transmitted to the film, these lenses are calibrated in terms of their net light transmission (signified by the symbol "H") instead of in "*f*" numbers. The 120-mm Imagon has an H-4.5 rating; all the others, H-5.8.

Safelight for Color! Among the many unusual features of Du Pont's polymer-type color release material for motion pictures first reported in T&T for September 1949 is the fact that it can be exposed to light from a "narrow-pass" orange-yellow safelight with a 600 millimicron sensitivity peak. This is made possible by the relatively large gap between the green and red sensitivities of the material as evidenced by wedge spectrograms. There is a somewhat smaller gap between the blue and green sensitivity areas on the spectrogram, which would make the use of a blue-green safelight filter possible if desired. We were recently privileged to see the orange-yellow filter in use with the polymer color-release material at first hand at the formal dedication of Du Pont's new photographic research laboratory at Parlin, N. J., where work on polymer-type "taking" materials is also proceeding apace. If you are interested in a detailed description of the polymer release material—its structure, technology, and applications, look up the November 1950 (current) issue of the *Journal of the SMPTE* (Society of Motion Picture and Television Engineers).

Odds & Ends. All Ektachrome Film supplied by Kodak since mid-summer has been coated with an emulsion that makes use of an improved magenta coupler. In addition to making a marked difference in the reproduction of reds and magentas, the colors produced by the new Ektachrome emulsion can now be separated with the set of tricolor filters used for separating Kodachromes.

. . . A new series of eight *f*/2 projection lenses with focal lengths ranging from 5¼ to 7 inches recently has been developed and field-tested by the Bausch and Lomb Optical Company. The increased screen illumination (tests showed an improvement of 44 to 110 percent) should be of special advantage to proprietors of drive-in theaters who can use it to expand their audience capacities. The new lenses are also intended for use in mammoth-size movie houses.

. . . The new Ednalite Projection Pointer, consisting of a 32 cp automotive lamp and a transformer mounted in a lightweight tubular housing has been designed to project a sharp, illuminated indicator arrow the length of an average sized auditorium from the projectionist's position. The manufacturer claims that this is the first time that halation has been controlled so that light does not spill over into the projected "scene" adjacent to the arrow. Operating on 115-v a-c only, the Ednalite pointer comes in a leatherette-lined, fitted instrument case—at $49.50.

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More Power For Flash

(Continued from page 131)

desirable. The layout of parts in the box (see Figure 2) was planned so that only about two inches of wire is necessary for the complete electrical hookup. And when the box cover is removed, the parts are out in the open, making it easy to solder the connections.

Where cases and reflectors are concerned you can practically suit yourself. For example, I happen to use small flashbulbs almost entirely; but if your preference is for standard base lamps you'll want to use a reflector designed for them instead of the type shown. The box need not be identical with the one employed, either, although it has proved to be compact and adequate.

To show you what another photographer did with the same basic capacitor circuit, there is included the picture of one made by Paul H. Manning and installed permanently on his Speed Graphic. He built it into a war surplus junction box designed originally for electrical installation in aircraft. This unit will be seen to contain a phone jack for extension work, the entire housing being somewhat smaller than ours and adapted to Manning's particular requirements. Most people will prefer to use standard outlets, for the reasons already stated.

Probably two to three hours' time and the following tools will be required for the actual job of construction: hammer, pliers, screwdriver, tin snips, vise, hack saw, file, drill, soldering iron, center punch, straight-edge, and scribe.

About now, you may be wondering how much of an investment is necessary for the parts to build your own capacitor flashing unit, and just where they can be obtained. The following list will answer your questions along these lines, and you will be pleasantly surprised to find the total cost under ten dollars. As you will notice, the price of the reflector actually constitutes more than two-thirds of the expenditure required.

No. 45A Heiland flashgun reflector, [illegible]	[illegible]
No. 412E, 22½-volt Eveready Mini-max battery	[illegible]
One gold 22-volt electrolytic condenser	[illegible]
L.M.B. No. 00 key chassis mounts	[illegible]
2 No. 102 NA-ALB receptacles @ 18¢	[illegible]
2,000 ohm ½-watt resistor	[illegible]
rubber grommets	[illegible]
8 small bolts and nuts, 4 soldering lugs, small angle bracket, 2 strips metal, about 4"x¾"x¼", 2 Parker-Kalon self-tapping screws, strip insulation, [illegible] or fiber, about 2"x¾"x¼", approximately	[illegible]
TOTAL	[illegible]

The only additional items necessary are the cord to fit your camera's synchro-shutter outlet—which you may already have—and a bracket to attach the completed flashgun to your particular camera. There is one point you will want to watch especially when you are ready to make a mounting bracket. The 45A Heiland reflector utilized in this flashgun has one side of the bulb socket "grounded" to the metal casting. Some synchro-shutter equipped cameras also have one side of their circuits grounded—in other words, only one of the flash connections is insulated from the metal camera body. In such cases the camera and the flashgun should be insulated from each other. This may be accomplished easily by using a pair of extruded insulating washers (obtainable at radio supply houses) on each bolt used for attaching the camera bracket to the side of the flashgun.

You can obtain the listed parts without much trouble in the average town or city. The reflector, connecting cords to fit the synchro-shutters of many cameras, and various flashgun mounting brackets which you may be able to adapt for use are available at most camera shops. The battery should be available from your local hearing-aid dealer. The remaining components listed can be located at most radio supply houses.

Now that you have the parts rounded up, just look them over for a few minutes—in connection with the illustrations—while you determine just where each one belongs in the finished flashing unit. With this clear in mind, you're ready to start working on the reflector. First remove the knurled bolt which is designated as (1) in Figure 3. This will allow the reflector (2) to slide completely off the bulb socket casting. Lay the bolt and the reflector aside. Take the bolt (4) from the bottom of the casting, being sure to save it, as well as the metal washer (5) and the fiber washer (6) which are on it. Complete the stripping operation by removing the knurled bolt, (3). Next, carefully wrap the top part of the casting in a small piece of cloth (to prevent marring the finish), place it in a vise and cut off the bottom part with a hack saw as indicated by the white line (7) in Figure 3. This operation is shown about half completed in Figure 4 where you can note the position of the saw blade. Leaving the piece in the vise, smooth it off with the file. Then saw vertical cuts to remove the portions which would otherwise extend out beyond the sides of the box in the assembled unit. These cuts must be filed smooth also.

Now you are ready to open the little black box, by removing the screw in each end, and pulling the two sections apart. It is now 1½" deep inside, and since this is larger than necessary, the box shown was "streamlined" by the removal of ⅜" from this dimension. While not strictly necessary, this is easily done, and adds to the trimness of the finished job. Using a straight-edge, mark lines with the scribe, and cut off the ⅜" wide strips with tin snips. The shorter strips from the other section of the box may be discarded, but be certain to keep the two 4" strips cut from the cover section because they will be needed later. You will now find it necessary to drill new holes for the screws which held the box together.

The next step is to prepare the box for installation of the reflector on top of it and for the outlets in the side. The surest way to do this correctly is to make a couple of templates for your guidance in locating drill-holes in the metal. For convenience in reference we will refer to these as Templates A and B. Template A is reproduced, exact size, as one of the illustrations for this article. Thus, you

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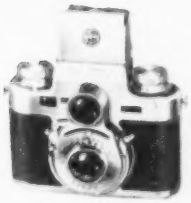

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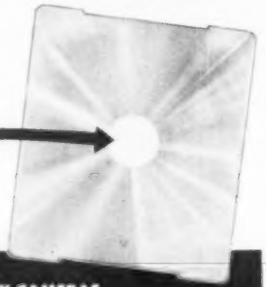

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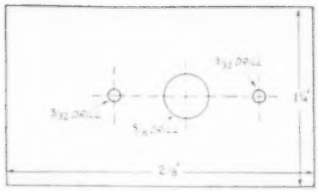
need only to lay a tissue over it and trace it to get a working pattern for locating punch-marks on the top of the housing. Place the template in position while you



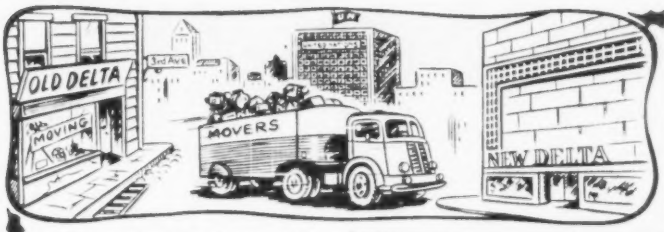
Template A for drilling top of metal box, preparatory to installing reflector assembly. As shown here, template is actual size, so it can be traced if desired.

center-punch the three points indicated. After removing the template, drill the holes as marked, in the sizes specified.

Template B is rectangular, exactly the same size as the side of the box in which the outlets are to be installed. With the accompanying photographs for a general guide, simply cut two rectangular holes—¾"x⅜" each in size—in Template B, place it on the box, and mark the cut-out areas, or "windows," onto the metal with a scribe. (The size and shape of the receptacles you select will govern the cutting-out of the openings, obviously. Directions given here are for the particular receptacles I used, which have proved very satisfactory.) A simple method of cutting out the scribed "windows" is to drill a series of small holes around, and just inside of, the guide lines (see Figure 5). Then you can easily knock out the metal with a screwdriver, finally smoothing the edges with the file until they are even with the scribed lines.

Now you are ready to locate one of the bolts which you previously laid aside (No. 4 in Figure 3), and cut it down to a new length of ⅞". Simplest way to do this is to thread two nuts onto the bolt just the place where it is to be cut off. When these nuts are really tightened against each other, then clamped in the vise, they will prevent the bolt from turning while you are cutting it with a hack saw. They also protect the bolt threads from being damaged in the vise, and when backed off they will serve the further important purpose of straightening the end threads on the bolt, so that you will have no difficulty in getting it started back into place.

Next put one of the soldering lugs on the bolt, following it with the metal washer and the fiber washer, both of which were originally on it. Then put the bulb socket casting in place on the chassis top, lining up the center hole in the box very carefully with the single hole in the casting. Now replace the bolt, being certain that the fiber washer fits into the hole so that the bolt is properly centered and insulated. After you have drawn the bolt up quite tightly, (the soldering lug should draw up into the metal washer to a certain extent), try the bulb ejector mechanism by pushing back on the center prong inside the flash-bulb socket. It it will not move back and



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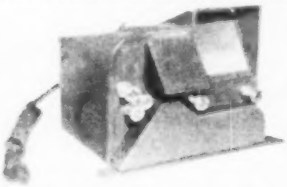

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11x14	Azo	F0	S W 144 Sh	3.95	10.50
8x10	Azo	F0	S W 144 Sh	1.50	3.95
8x10	S M	E2	L W 144 Sh	1.95	5.50
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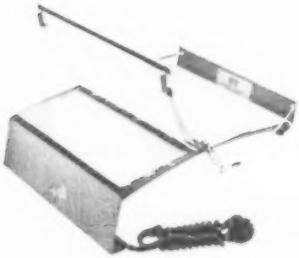

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forth freely, you will know that the bolt is still a bit too long, and will fix that before proceeding.

While the bulb socket is still in place on top of the chassis, mark the points (through the holes in the box) for drilling into the casting for the two mounting holes. Their size is, of course, determined by the little self tapping screws which you will then use to attach the socket permanently to the box.

The next item necessary is the insulated terminal strip, which is shown assembled in Figure 5. The exact position of the center hole in the piece of insulation obviously will depend on the location of the hole in the little angle bracket which you use. The two clips which hold the battery so nicely are the little metal strips bent at right angles. One hole is drilled in each of them so that they may be bolted to the ends of the piece of insulation, just even with its top edge. Now, while holding the battery in place between the clips, make a mark on each one where the raised center on the end of the battery touches it. A slight projection is formed at each of these points on the clips by backing them with a block of wood (held in the vise) while they are center punched, *lightly* from the other side. These projections, by fitting into tiny holes which are in the battery terminals, hold the battery securely in place, and in good electrical contact, yet the battery is capable of being easily removed when necessary. With the battery slipped into place, locate the assembly as indicated in Figure 2, and mark where a hole for mounting the angle bracket should be drilled. The insulated terminal strip as well as the extension outlets may now be bolted in place. As you will notice in Figure 2 the one remaining soldering lug is fastened in with the lower receptacle, being held by the bolt on the right side.

The previously mentioned "jumpers" should be made now. Since the flashbulbs are connected in series in this circuit, such a "jumper" is necessary in each receptacle at all times, except when its removal is obviously required to permit the use of that particular outlet for plugging in an extension. Cut a strip 2¼" x ¼" from each of the 4" lengths which you trimmed from the box chassis and saved for this purpose. Then, with a file, smooth the edges, round the corners, and remove all of the black crackle finish from them (for they must be good electrical conductors). Each strip may now be formed, quite easily, by using your fingers to bend it around a fountain pen or other convenient object which is approximately ½" in diameter.

It's time to plug in the soldering iron, now, and while it is heating, you'll have a chance to drill one last hole—through the front of the box cover, as indicated in Figure 6—for the synchro shutter cord to go through. The rubber grommet is then inserted in this hole to protect the cord from chafing against the metal. When the soldering iron is ready, a wire is first soldered into place connecting the left terminals of the two receptacles. Run another wire from the right terminal of the lower receptacle to the soldering lug which you have anchored right there by it. This makes the case a part of the circuit, since it connects this side of the lower receptacle with the outer shell of the reflector socket.

In figure 2 you will observe that the condenser connects at the top to the soldering lug on the previously shortened bolt. CAUTION: Be certain to attach it with the *positive* end *up*. It will be marked with a plus sign. The battery, also, *must* be inserted with the *positive* end *up*, as shown. *These two points are very important.*

The other (negative) end of the condenser is then soldered to the lug on the lower end of the insulated terminal strip. The battery might well be removed during these soldering operations. The resistor, as shown, is first secured to the top lug of the terminal strip, and then to the right terminal on the upper receptacle. Put it "either end to," and slip short pieces of insulation over its wire leads, if you have some. Otherwise, tape the lower lead, where it passes between soldering lug and battery terminal. After first running the cord for the synchro-shutter through the grommet, solder one of its wires to the same lug as the negative end of the condenser, and the remaining wire to the upper right receptacle terminal (where the resistor is attached).

That's all there is to building the flashing unit, so put it together quickly, and see how your finished project looks. Just place the cover on the box, and put the screws back into the ends. (When inserting the top one, you can prevent marring the finish by holding a piece of paper between the screwdriver blade and the casting.) Then slide the reflector back on the bulb socket, fastening it with the knurled bolt. You will note that the focusing action, which is a nice feature of this reflector, will still function.

In a few more minutes, your mounting bracket will be made,—and then you'll be on your way, to flash some really "super" pictures with the amazing unit *which you built yourself!*

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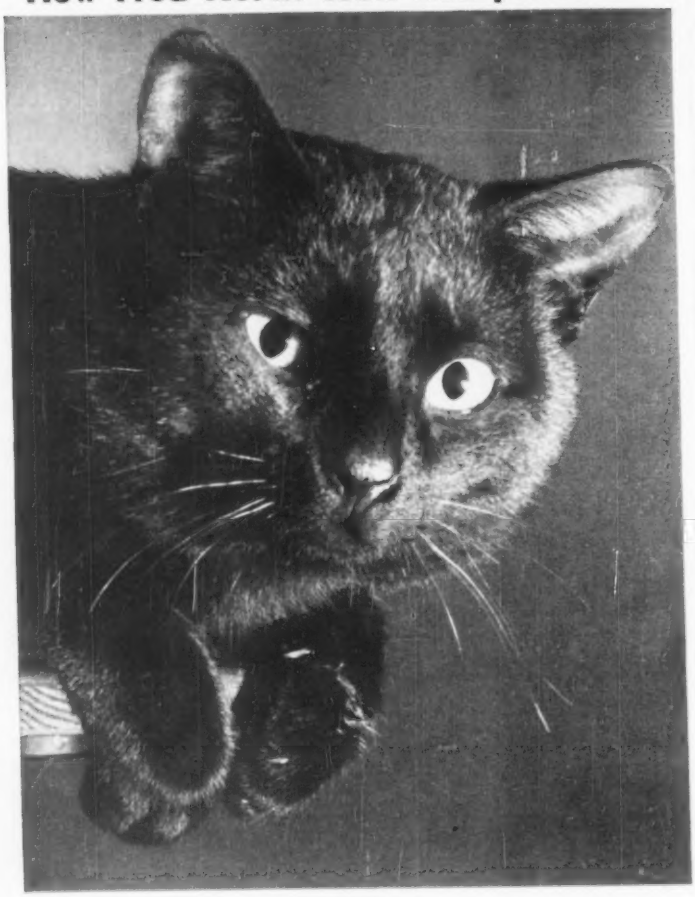
How Fred Korth took this picture—



Good cat pictures are not easy to take, but they're exciting when you get them. Famous photographer Korth used a 5x7 Deardorff Universal-View Camera, with open flash at F11. He used fast pan film with a number 22 bulb in a hand flash holder. Film was, of course, developed in **EDWAL** Thermo-Fine Developer, and the print was made in **EDWAL** One-Eleven. Most good photo dealers have **EDWAL** ready-to-use photo chemicals in stock. They're better—they cost less.

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Calendar of PHOTOGRAPHIC EXHIBITIONS

*Conducted according to the recommended practices of the Photographic Society of America.

2nd International Salon of Photography in Tangier, Tangier Photo Club and Tangier International Administration, Tangier, Morocco.

On exhibit in Tangier, Rabat, and Casablanca, Nov. 15 to Dec. 20.

1950 Chicago International Exhibition of Photography*, Chicago Area Camera Clubs Association and Chicago Camera Club, Chicago, Illinois.

On exhibit at Museum of Science and Industry, Oct. 28 through Nov. 26.

Seventh International Chicago Color Slide Exhibit*, Chicago Color Camera Club, Chicago, Illinois.

Projection to the public at Museum of Science and Industry, Nov. 10, 11, 12, 18 and 19.

Sixth Mississippi Valley International Salon of Photography*, St. Louis Camera Club, St. Louis, Missouri.

On exhibit at City Art Museum, St. Louis, Nov. 5 to 20.

1950 Conshohocken Exhibit of Photography, Conshohocken Camera Club, Conshohocken, Pennsylvania.

On exhibit Nov. 13 through 19, at site to be announced.

Tenth Annual Exhibit of Nature Photography*, Ohio Falls Chapter, Kentucky Society of Natural History, Louisville, Kentucky.

On exhibit at Louisville Free Public Library, Nov. 19 to Dec. 3.

Wisconsin Today, First Annual Photographic Exhibition*, State Historical Society of Wisconsin, Madison, Wisconsin.

Closes Dec. 1.
No entry fee, four prints and or transparencies allowed.
On exhibit at the Museum of the State Historical Society, Madison, Jan. 27 to March 26.
For information and entry blank write: John W. Jenkins, Museum, State Historical Society of Wisconsin, 816 State St., Madison 6, Wis.

50th Year of Federation International Salon of Photography*, Canberra Photographic Society, Canberra, Australia.

Closes Dec. 2.
Entry fee five shillings, four prints allowed.
On exhibit at Canberra, Jan. 21 to 31.
For information and entry blank write: The Hon. Secretary, Canberra Photographic Society, Post Office, Civic, Canberra, Australia.

13th Annual Springfield International Salon of Photography*, George Walter Vincent Smith Art Museum, Springfield, Massachusetts.

Closes Dec. 4.
Entry fee $1 for four prints.
On exhibit at the Museum, Jan. 2 to 27.
For information and entry blank write: George Walter Vincent Smith Art Museum, Springfield 3, Mass.

Fourth Cuban International Exhibition of Photography and Color Slides*, Club Fotografico de Cuba, Havana, Cuba.

Closes Dec. 5.
Entry fee $1 for each section, four entries allowed in each.
On exhibit at quarters of the Club, Dec. 15 through Jan. 15.
For information and entry blanks write: Sr. Benjamin Rodriguez Delfin, Calle 23 and white entries and Sr. Desiderio Villar Puente, for color entries, both at Club Fotografico de Cuba, O'Reilly y Compostela, altos, Havana, Cuba.

16th International Salon of Photography*, Des Moines Y.M.C.A. Movie and Camera Club, Des Moines, Iowa.

Closes Dec. 9.
Entry fee $2 for four prints.
On exhibit at Y.M.C.A. and Des Moines Art Center.
For information and entry blank write: Des Moines Y.M.C.A. Movie and Camera Club, Y.M.C.A. Bldg., Des Moines, Iowa.

19th Detroit International Salon of Photography*, Photographic Salon Society of Detroit and Detroit Institute of Arts, Detroit, Michigan.

Closes Dec. 12.
Entry fee $1, four prints or slides allowed.
On exhibit at Detroit Institute of Arts, Jan. 14 to Feb. 4.
For information and entry blanks write: John H. Applegate, 382 Lorraine, Grosse Point 30, Mich.

Lucknow International Salon of Photography, United Provinces Amateur Photographic Association, Lucknow, India.

Closes Dec. 15.
Entry fee $3.
On exhibit at Lucknow during Feb. and March.
For information and entry blank write: S. H. H. Razavi, Hon. Gen. Secy., U. P. Amateur Photographic Society, 19, Cantonment Road, Lucknow, India.

Rockford International Salon*, Rockford Art Association and Rockford Lens and Shutter Club, Rockford, Illinois.

Closes Dec. 29.
No entry fee, four prints allowed.
On exhibit at Burpee Art Gallery, Rockford, during January.
For information and entry blanks write: Elaine Newman, 344 N. Main St., Rockford, Ill.

55th Annual Exhibition, Birmingham Photographic Society, Birmingham, England.

Closes Jan. 29, entry forms to be in by Jan. 14.
Entry fee $1 for four entries.
On exhibit at the gallery of the Royal Birmingham Society of Artists, Feb. 16 to 24.
For information and entry blanks write: R. M. Henderson, 85, Alt Sands Road, King's Heath, Birmingham 14, England.

18th Wilmington International Salon of Photography*, Delaware Camera Club, Wilmington, Delaware.

Closes Jan. 14.
Entry fee $1, four prints allowed.
On exhibit at Delaware Art Center, Feb. 4 to 25.
For information and entry blank write: M. M. Wimmert, P. O. Box 401, Wilmington, Del.

19th Minneapolis International Salon of Photography and Color Slide Exhibition*, Minneapolis Council of Camera Clubs, Minneapolis, Minnesota.

Final entries close Jan. 15, slides Jan. 22.
Entry fee $1 for each section, four allowed in each.
On exhibit at Minneapolis, Feb. 1 to 24.
For information and entry blank write: Warren Ambrose, Feb. 8, 7th, 8th, Minneapolis, Minn.

6th Chicago International Exhibition of Nature Photography*, Chicago Nature Camera Club and Chicago Natural History Museum, Chicago, Illinois.

Closes Jan. 15.
Entry fee $1 for four prints or slides.
On exhibit at Chicago Natural History Museum, Feb. 1 through 28.
For information and entry blank write: Dorothy Roberts, 2424 Central Park Ave., Chicago 23, Ill.

9th International Western Canadian Salon of Photography*, Manitoba Camera Club, Winnipeg, Manitoba, Canada.

Closes Jan. 20.

How to Buy an ENLARGER

By BOB SCHLANGER

It's important to know what to look for in buying an enlarger—just as it is if you're thinking of buying a car, or a radio, or a washing-machine. You wouldn't buy a car, for example, just because it was shiny, or big.

Well, in an enlarger, here are the things that count.

IT SHOULD BE SIMPLE AND EASY TO OPERATE. You want an enlarger so designed that you can master the necessary operations in a few minutes, enabling you to make good pictures right from the start: you want focusing controls that work smoothly and efficiently, and that hold the lens at exactly the right point: you want an enlarger that can be moved lightly up and down the post, without physical strain or exertion.

THE ILLUMINATION SYSTEM SHOULD BE EFFICIENT, AND THE LIGHT EVENLY DISTRIBUTED. You want an enlarger that will illuminate the negative in such a manner that the intensity of the light will be uniform over the entire enlarging area. This is a very important point, because otherwise your prints may be dark (over-exposed) in some parts, and light (under-exposed) in others. You also want an illumination system so efficient that you can obtain a fully exposed print without having to resort to unduly long exposures—and you want to be able to get that result with an enlarging lamp that generates only a moderate amount of heat. Remember that the size of the lamphouse is no indication of its efficiency. Efficiency is entirely a matter of sound engineering design.

THE LENS SHOULD BE A TESTED ANASTIGMAT ENLARGING LENS. Since it is the lens that forms the image, you want a lens that has been ground and polished in accordance with sound optical formulas to give clear, sharp images without aberrations or distortions. Since lenses vary greatly in quality and in the purpose for which they are designed, your best assurance is to buy an enlarger which includes in the price a lens specifically fitted to and tested with that enlarger.

THE ENLARGER SHOULD BE DURABLY AND STRONGLY DESIGNED AND CONSTRUCTED. In order to secure enlargements which are sharp and free from distortion, it is necessary to have the negative and the baseboard absolutely parallel at all times, and to have the axis of the lens perpendicular to both. Moreover, the enlarger should be so strongly and rigidly constructed that it cannot vibrate during the exposure. For this reason, you want an enlarger that is carefully designed and engineered throughout and that is strongly constructed of welded, re-inforced steel. An enlarger so designed and built will give you a lifetime of satisfactory service.

THE ENLARGER SHOULD BE MODERATELY PRICED. While you should not buy an enlarger merely on price, the fact remains that the application of mass production methods to the manufacture of photographic enlargers can bring you an instrument which embodies all of the features which you require in an enlarger, at a price much lower than would be possible if it were manufactured in limited quantities. It is important, however, to make certain that quality has not been sacrificed to price.

THE ENLARGER SHOULD BEAR THE NAME OF AN EXPERIENCED, REPUTABLE MANUFACTURER. When you buy an enlarger, you should make sure that it is made by a company which is well and favorably known in its field, and which can be depended upon to stand squarely behind its product.

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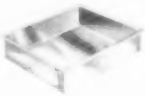

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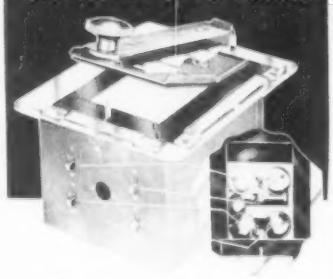

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On exhibit at the Cripplegate Institute, London, March 13 to 17.
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14th Annual International Exhibition of Photography*, Circle of Confusion, Whittier, California.

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No entry fee for foreign contributors; four prints allowed.
On exhibit at Gladys Hill Municipal Library, Ilford, Essex, England, March 9 to 14.
For information and entry blank write H. D. Gampert, 6, Mackenzie Ave., Manor Park, London E. 12, England.

5th Great Falls Salon of Photography*, Great Falls Camera Club, Great Falls, Montana.

Closing date: [illegible]
Entry fee $1, four prints allowed.
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15th Philadelphia International Exhibition of Photography*, Miniature Camera Club of Philadelphia, Pennsylvania.

Closing date: [illegible]
Entry fee $1 for four prints or slide.
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For information and entry blank write [illegible], Secretary, [illegible] Morton Street, [illegible]

2nd International Salon of Photography and Color Slide Exhibition*, Worcestershire Camera and Cine Club, Malvern, England.

Closing date: [illegible]
No entry fee [illegible]
On exhibit at City Art Gallery, Worcester, March 17 to [illegible]
For information and entry blank write H. Taylor, [illegible], 101 Malvern, Worcestershire, England.

7th San Francisco International Color Slide Exhibit*, Photochrome Club of San Francisco, California.

Closing date: [illegible]
Entry fee $1 for four slides.
On exhibit at San Francisco, March 18 to [illegible]
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38th Pittsburgh International Salon of Photographic Art*, Photographic Section of the Academy of Science and Art, Pittsburgh, Pennsylvania.

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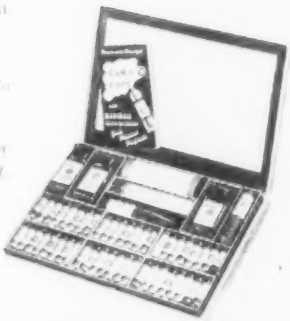

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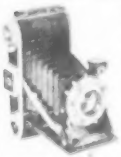

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Tabletop Titles

(*Continued from page* 134)

have short pins embedded in their backs. These letters are made in various sizes and type faces, and are priced at about eleven cents each. The poster boards and letters are available at most art stores or stationery shops.

Turning the bedroom into a "studio," I set up the card table in front of a chest of drawers, pulling out one of the lower drawers to serve as a platform for the posterboard background. I pasted the posterboard against a piece of thick corrugated carton material, and mounted the letters against the background, spacing them to make an attractive and eye-catching legend. After the letters were mounted, I placed the posterboard on the pulled out drawer, leaning it against the chest. I put a sheet of posterboard of a contrasting color on the top of the card table, and pushed the table against the background. (A large mirror can be substituted for the posterboard on the table, and will give very dramatic effects to the finished title slides.)

I decided that I wanted slides with shadows cast by the letters. I placed one floodlamp to the right of the setup, for overall lighting. I placed an inky-dinky high and to the left of the setup, to highlight the ceramic figures used in the design. The shadows of the letters resulted from a spotlight behind the figures, and just below the level of the table. After determining exposure by meter reading, I made a few shots of each title, using different combinations of shutter speed and aperture for each shot.

Exposure varies with the lighting employed. If lighted from various angles, the shadows of the letters will help the props add a third-dimensional effect to the projected slides. If no shadows are desired, straight head-on lighting minimizes them. Where legends are lettered on posterboard, either with a brush or pen, using black, white, or colored paints, there is no shadow problem, and the only shadows to watch out for, or control, are those cast by the props.

Other interesting backgrounds can be made from many materials, including wood, metal or metallic-surfaced cardboard sheets, and various types of fabric, such as monk's cloth, burlap, colorful drapery, blankets, or even carpeting. Maps are very effective backdrops for travel titles, and magazine illustrations or photographs can be used for paste-up backgrounds.

Attractive titles also can be photographed by making double exposures, or by combining two individual exposures in a single binder. If you select the double exposure method, a frame containing a sunset or similar colorful scene, can be exposed a second time for the desired title. The legend of the title consists of white letters on a black background. When shooting on color film, using black as a background for the lettering prevents the original exposure from being spoiled by the introduction of other colors. If white were to be used as the background color for the lettering, it would wash out the colors of the original exposure. The legends either can be painted in white on black cardboard, or white letters can be pushed into black cardboard. The use of double-exposure, however, limits the result to white, or light colored legends.

A combination of two individual exposures bound in a single mount will give very satisfactory results, and also will make possible a saving in the cost of film. The legends can be photographed on black-and-white film, and the resultant negative combined with any colorful transparency. This method also is very handy in making title slides using a type of background material that cannot be lettered, or where it is undesirable to letter the background subject, or where black titles are desired. It is important to remember that the legend, when photographed on color film, will appear on the screen in its actual color, but will be projected as a negative if shot on black-and-white film. Positive film would be a better choice for photographing legends than other black-and-white films, since it is more contrasty. If you use color film to make the legend exposure, use a white background, and the resultant transparency will be one through which the scenic shot will project perfectly.

A portrait "trade mark" can be used to start off your slide show, and is as good a reason for showing a color shot of yourself and your camera as any. It would be nice if you can get someone to take a picture of you against a simple background, but you can make a self-portrait. Stand in front of a large mirror, adjust the lighting to suit yourself, take an exposure meter reading, trip the shutter—and you have it! Reversing the slide in the projector straightens everything out at the showing.

Any set of transparencies will benefit from the addition of colorful, imaginative titles, and they will set the mood for the showing and convey to your audience the fun you had making the pictures. The preparation, design, and photographing of the titles will give you as much enjoyment or more enjoyment as did the event they're made to announce. ►

"De guy said ya can get 36 shots outa one cartridge."

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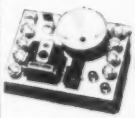

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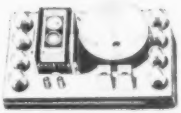

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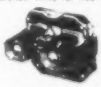

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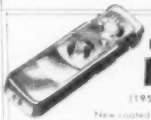

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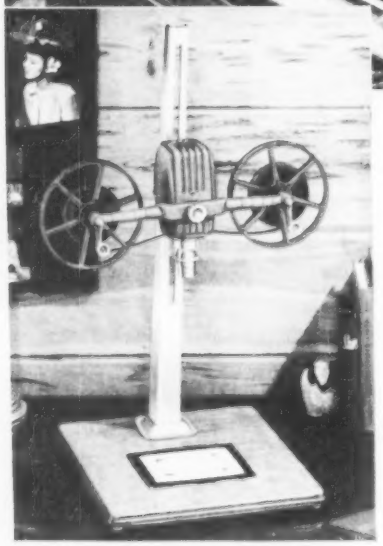

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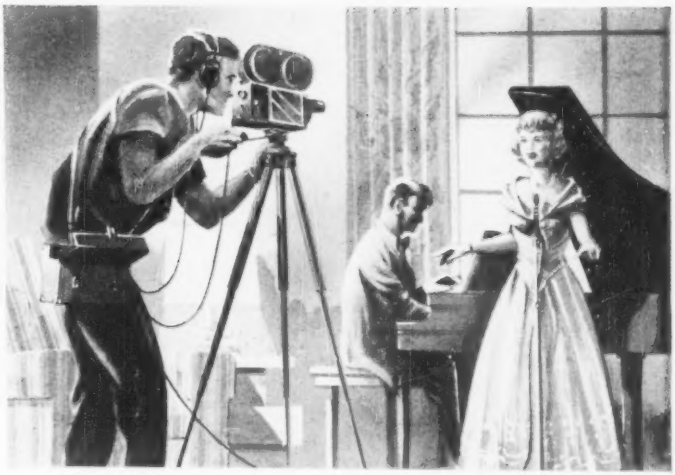
SOUND FOR YOUR CAMERA?

The author envisions a low-cost sound-on-film camera and stresses the features it should have

By MAURICE DUCHARME

Illustrations by Julian S. Krupa



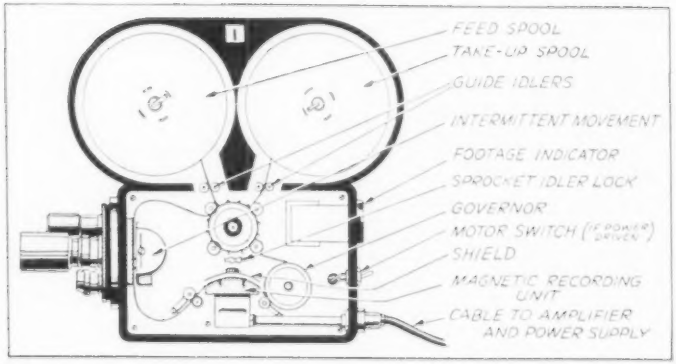
Dream sound camera would be budget priced, light in weight, portable, spring driven, have 200-foot magazines, and would incorporate the magnetic sound recording principle.

FOR YEARS many serious movie amateurs have been wishing for and dreaming of the day when a practical single-system sound camera of good quality, high fidelity, and low cost would appear on the market. In an effort to speed that day, I should like to describe what, to me, seems to be the dream sound camera for the amateur.

First, let's briefly review the use of sound and sound recording systems so we'll have a better background for our discussion. Some amateurs have given audibility to their movies by speaking their own commentary, either over a public address system or by direct voice; others have played recordings of appropriate background music; a limited group has combined these two forms of sound. But the physical complications of additional equipment (such as dual turntables and a score or more of musical and sound effect records) plus the mental gymnastics of having to read a prewritten, carefully timed script, and having to fade in and fade out each bit of background music and sound on cue—all these have made this a two-man operation and therefore have limited its use.

Wire recording—that is, the impressing of variable magnetic areas, which have been modulated by sound, along the length of a wire as it moves through a recording head, and the later transfer of these variable magnetic areas back to sound as they travel through the playback head—simplified to some extent the problems of the amateur who wanted sound with his movies. With it he could record all his commentary and background sound on small spools of wire—thus eliminating much equipment weight and much of the tension connected with cueing in each background recording. (The Armour Research Foundation of Chicago, and one of its young research physicists, Marvin Camras, were jointly responsible

(Continued on page 180)



Sketch shows inside detail of camera. An inexpensive magnetic unit records sound on a strip of iron oxide fused to the film just outside the sprocket holes.

Appealing movies of your children playing with other youngsters will be welcomed by their parents. Why not let them enjoy the films, too, by sending them duplicates.

HOW TO

Want to copy some of your precious movies for other persons to enjoy? Here's a simple method you can use

By ERNEST WILDI

COPIES of some of your own movie films are exceedingly desirable to have . . . and you can make such duplicates—eminently satisfactory ones—in your own home without special equipment—as I shall attempt to prove to you if you'll just keep on reading for the duration of these paragraphs.

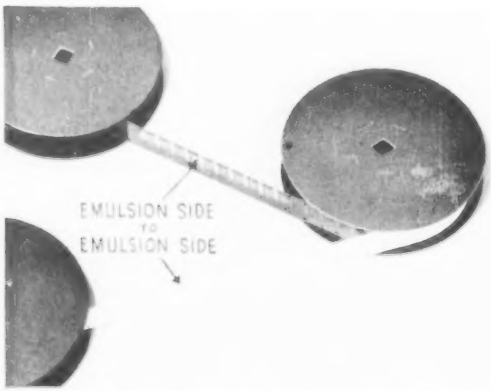
Suppose, for instance, that you take your family on an automobile vacation trip with your friends, the Reigels, and their children. Your movie footage of the trip captures the fun and adventure—it shows you and Reigel repairing a tire on a highway near Oklahoma City . . . your children playing with the Reigel youngsters at a tourist cabin in Texas . . . your wife and Mrs. Reigel buying silver jewelry in Taxco, Mexico . . . and a hundred and one other little incidents that bring happy memories each time the picture is shown. Now, why keep all the fun to yourself—the fun of showing this picture? Why not make a duplicate of the film for the Reigels? It will make a nice Christmas present this season, you know.

Suppose, again, that you have made what you think is an outstanding film. Well, that particular print is good for only a certain number of showings. With hard use it may become worn and scratched. But if you will make a copy of it now, you can project the duplicate and keep the original as fresh as an unopened roll of film. (Now, I trust, you're beginning to get the idea).

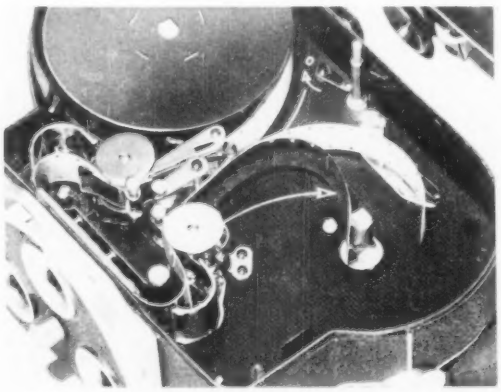
The roll-film camera that you use for taking your family movies can also be used as a printer. Although copying is usually understood to mean the making of positive prints from negatives, I have not limited my experiment to this one type of printing, and I have found that there are many more possibilities—that even color copies of your precious color film can easily be made.

Your film library possibly also contains some color films which for some reason are too red or too blue. Such films can be improved in copying because it is possible to balance incorrect colors when you make the duplicates.

Both 16-mm as well as 8-mm cameras can be used as



First step is to wind 50 feet of film to be copied together with 50 feet of unexposed stock onto one spool—in a darkroom. Put emulsion to emulsion, with unexposed film on outside of roll.



Next step is to load the spool into the camera. Note that both films have normal leaders. Be sure that sprocket teeth engage perforations of both of the films to assure proper transport.

MAKE *Film Duplicates*

printers, but with the latter copies must be made before the 8-mm film is cut and separated; that is, while it is still in its "double 8" format. A spliced 8-mm film, as it is returned from the processing laboratory cannot be used for printing in the 8-mm camera. I made my experiments with the Bolex H, but just about any camera will do the job if the sprockets and film gate will accommodate two thicknesses of film. (Better check this with two layers of processed film before you start making duplicates—just to be sure).

Several types of copying are possible in your camera with this set-up. You can make positive prints from negatives, negatives from positives, direct positives (reversal) from positives, black-and-white negatives from color film, and color copies of color film. Moreover, you can introduce fades, you can change the colors of the originals for special effects, and you can correct to quite an extent for faulty original exposure.

Travel films, in black and white or color, can be copied in your roll-film camera. If you plan to exhibit or loan your movies, it's a good idea to make a duplicate first.

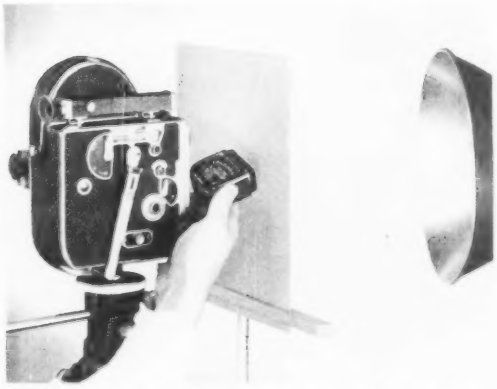
Procedure

The printing can be done before splicing and editing the film, but you will be happy to know that it also can be done afterward with the result that you can show your friends a roll of film without a hundred and one splices; and if you should want to make several copies of one film, this method eliminates the splicing and editing of each copy.

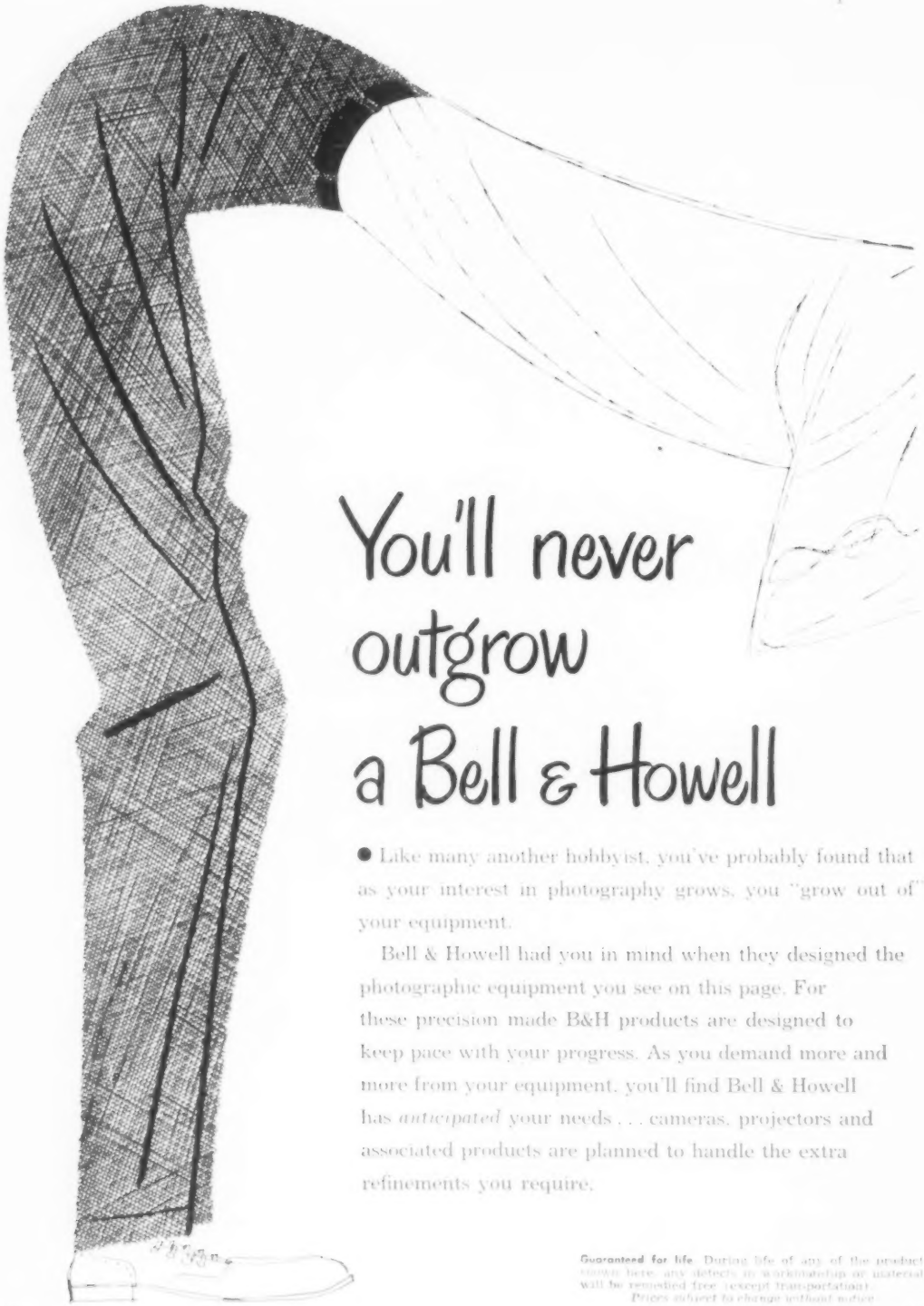
Rolling Films On Spool—The first step is to wind the film to be copied together with the unexposed film, onto one spool, in the darkroom. As illustrated, the two films have to be wound on the spool, emulsion side toward emulsion side, so that the unexposed film is on the outside. A pair of rewinds will be very helpful for this work. Fifty feet of processed film and 50 feet of unexposed film will, of course, fill a 100 foot spool.

Loading the Camera—The loaded spool should have a regular leader of 2 to 3 feet, and should be threaded as though they were actually one film. In most cameras it will be necessary to check that the teeth of the sprockets are into the perforations of both films to assure proper film transport. You will find that this bi-pack threads through the gate as simply as one film. If the film should not catch immediately onto the teeth of the lower sprocket, (which happened to me only two or three times) lift the filmguide and bring the perforations of both films together onto the teeth of the sprocket by moving the films slightly forward or backward. In doing so, make sure that the lower loop is kept large enough. Close the filmguide. Then, when the film is correctly threaded, bring the beginning of both films onto the take-up spool, close the lid, and your camera is ready for copying.

The Setup—I have been experimenting with different light sources, and with and without lenses on the camera. Both ways work satisfactorily, but as the use of lenses offers no advantage at all, I suggest removing the lenses from the camera before copying. The camera is mounted on a tripod pointing directly toward the light source as seen in the illustration. Place a piece of opal glass before the camera to insure even illumination over the entire frame. The camera is operated at 16 frames per second in the regular way, by pressing the (Continued on page 176)



Setup for making duplicates consists of loaded camera on a tripod, a piece of opal glass in front of it, and the lighting unit. The author explains how to determine exposure and distance.



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● Like many another hobbyist, you've probably found that as your interest in photography grows, you "grow out of" your equipment.

Bell & Howell had you in mind when they designed the photographic equipment you see on this page. For these precision made B&H products are designed to keep pace with your progress. As you demand more and more from your equipment, you'll find Bell & Howell has *anticipated* your needs . . . cameras, projectors and associated products are planned to handle the extra refinements you require.

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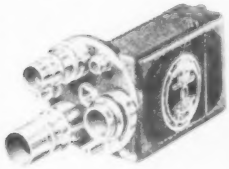
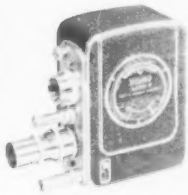
The 70 DE Camera is an excellent example of basic Bell & Howell equipment designed to "grow" with the most ambitious amateur. In addition to the features listed here, many advanced extras may be added to give you the finest camera in the semi-professional field!

Built to professional standards, this camera is one of the most versatile in the 16mm field. It operates at 7 precise, governor controlled film speeds—the 204° open segment shutter giving a full second exposure at exact sound speed (24 frames). Three lens turret assures you of the right lens for any shot...instantly! Added features include a critical finder, rewind knob and hand crank. With 1 inch f 1.9 Filmocoted lens only, $599.50.

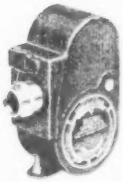
Single-Case Filmosound. For 16mm sound or silent movies. Runs film backward. Stops for still pictures. Precision built for theater quality pictures. Governor-controlled gear drive assures constant film speed. Natural, flutterless sound at any volume level. Brilliant, steady pictures. With built in six inch speaker, $429.50. (Larger separate speakers available.)



Auto Master. Offers the finest combination of versatility and simplicity in the 16mm field. Quick turn of three-lens turret instantly positions lens and matching viewfinder. Magazine loading. Five operating speeds including true slow motion. Starting button lock, single picture release, exposure guide. With highly corrected 1 inch f 2.5 Filmocoted lens only, $274.00.



Auto-8. Versatile, easy to use. Small magazine loading. Swiftturn two-lens turret with indicating pointer type viewfinders. Permits full second shot of lenses for long shots or close-ups. Five speeds including true slow motion. Takes single pictures. Has Selectlock, built-in exposure guide and universal film indicator. With 5 inch f 2.5 Filmocoted lens only, $169.50.



8mm Sportster. Small, easy "drop-in" film loading. Five governor-controlled operating speeds, including true slow motion (64 frames). Exactly-read exposure guide and accurate film footage indicator. Built-in masks for extra shots. With 5 inch f 2.5 Filmocoted lens, $99.75.

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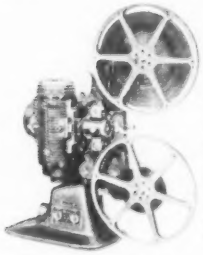
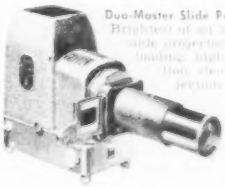


8mm Regent. Better 16 illumination than any other popular home projector in the 8mm field regardless of lamp wattage. Easy to thread—no separate film guides. Built to higher B&H standards for dependable performance, long life. Only $149.50.



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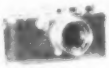

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NEW HOME MOVIES

PROPER STEPS. 1 reel, 9-min., 16-mm black-and-white. Sale, $45; rental, $2. Flory Films, Inc., 303 E. 71st St., New York 21, N. Y.

Based on medical research by a noted doctor, this health film points out common foot abuse in the walking habits of civilized man. Many of these errors can be remedied by correcting the method of walking. The film demonstrates how to achieve maximum use of the foot with the greatest degree of comfort.

THE FABLE OF THE PEACOCK. 15-min., 16-mm color sound. Available for rental or sale. Brandon Films, Inc., 1600 Broadway, New York 19, N. Y.

This is the first in a series of 15 films on ethnic dances to be made to produce, to Schneider and director Dwight Godwin, and illustrates the dance of India as a ceremonial and a form of entertainment. Starring in this feature is Lakshmi Widdi Singh, one of India's outstanding dancers, who tells the story of the famous fable through hand and facial gestures and body movements. Music for the film was composed by Lakshmi's father, Dr. Wasantha Widdi Singh, who is now director of the Indian School of Music in New York City.

PENNY SERENADE. 120-min., 16-mm black-and-white sound. Rental $17.50. Ideal Pictures Corp., Dept. B-101, 65 E. South Water St., Chicago 1, Ill.

Penny Serenade stars Irene Dunne and Cary Grant in one of their finest acting roles. This film tells the story of the great sacrifices of a mother, father, and their lovable children.

FATAL SECONDS. 10-min., 16-mm black-and-white sound. No loan charge. The Aetna Life Insurance Co., 151 Farmington Ave., Hartford 15, Conn.

This film underscores the folly of taking a chance when behind the wheel of a car, and is based on the tragic story of a motor-vehicle accident-driver whose impatience led him to pass on a hill, putting him a lifetime of careful driving can be undone in a single impulsive act.

QUEEN O' THE BORDER. 1 reel, 10-min., 16-mm Technicrome sound. Rental $2.50; available for sale. British Information Services, 39 S. LaSalle St., Chicago 3, Ill.

This film shows us how all the machine and handwork needed to complete the famous "Tess" knit sweaters and the little town, Hawick, from which these sweaters come.

SYNTHETIC FIBERS. 1½ reels, 14-min., 16-mm black and white sound. Rental, $4 for 3 days; sale $63. Encyclopaedia Britannica Films, Wilmette, Ill.

Simplicity in explaining the highly involved industrial techniques is achieved by setting the film in a laboratory where a student tells two boys, John and Bob, how rayon and nylon are made and then bringing to life on the camera, in industrial plants where the processes take place on the current operating basis. The student begins by comparing the making of synthetic fibers to a spider spinning a web. He performs the steps in matchless time lapse. From wood to steps in matchless time lapse. From wood to

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wood pulp, from wood pulp to the viscous spinning solution, then to the machines that spin the solution into fibers.

* * *

THE CAPTIVE HEART. 11 reels, 16-mm black and white. Rental, $20. United World Films, Inc., 445 Park Ave., New York 22, N. Y.

This film deals with life in a German prisoner-of-war camp, where a Czech officer, who has assumed the identity of a dead British soldier, corresponds with and falls in love with the slain man's wife. Michael Redgrave, Mervyn Johns, and Derek Bond are featured.

HOME MOVIE NOTES

World In Color Productions, 105 W. Church St., Elmira, N. Y., announces the release of the first three of an extensive series of 35-minute color motion pictures of Florida, entitled "Tropical Hobbyland, Miami," "Rose Ash Reptile Institute," and "John and Mable Ringling Museum of Art." Each film is available in 8-mm Kodachrome at $7.50 or 16-mm, silent, Kodachrome at $14.75. A catalog of 88 color films is available by writing to the company, and enclosing four cents in stamps.

* * *

Cornell Film Company, 1501 Broadway, Room 1201, New York City, announces the release of a new Technicolor picture entitled, "Hunting with Bow and Arrow." This film

Film features famous archer, Andy Vane.

was made in conjunction with the world famous archer, Andy Vane, on a trip through the wilds of Tampico, Mexico.

* * *

The vital role the newspaper plays in our daily life and the complexities of its production are the subject of new educational motion picture produced by the Chesapeake Productions Films, "Newspaper Story," a 16-mm sound film for use by students in the middle grades and junior high school, gives an intimate view of the activities on one medium sized daily paper in the United States. The camera follows a reporter as he uncovers a story and carries the development of that story until it appears in the paper. The film is produced in collaboration with Dean Kenneth E. Olson of Northwestern University's school of journalism. The actual scene of the film is the plant of the *Evanston Republic* and *Roseville Star-Rockford Ill.* Further information may be obtained by writing to Chesapeake Productions at 1130 Wilmette Ave., Wilmette, Ill.

* * *

"The Razor of Selling," a 16-mm sound-color motion picture, dramatizing factual, attention-getting advertising and promotional experiences of industry at Home food products, produced by the National Advertisers Association. The movie is made possible by the Putman Publishing Co. of Chicago, donor of the annual Putman Awards for industrial advertising accomplishments. The 22-minute film includes re-enactments of dramatized case histories chosen from those that received Putman Awards in 1947 and 1948.

* * *

United World Films, Inc., producers of Castle Films, 242 S. Ferdinand St., Chicago, Ill., announces distribution of free educational 16-mm sound films to organizations, small groups, and schools. A few of the 48 titles now available are: "It Can Be Done," "Setting the Red Cross Volunteers on the Job," "Dinner Is Your Competition," showing how to combat accidents in homes, at work, play, etc., and "The Train Ball," the century's behind-the-scenes story of the railroads. Further information may be obtained by writing to United World Films.

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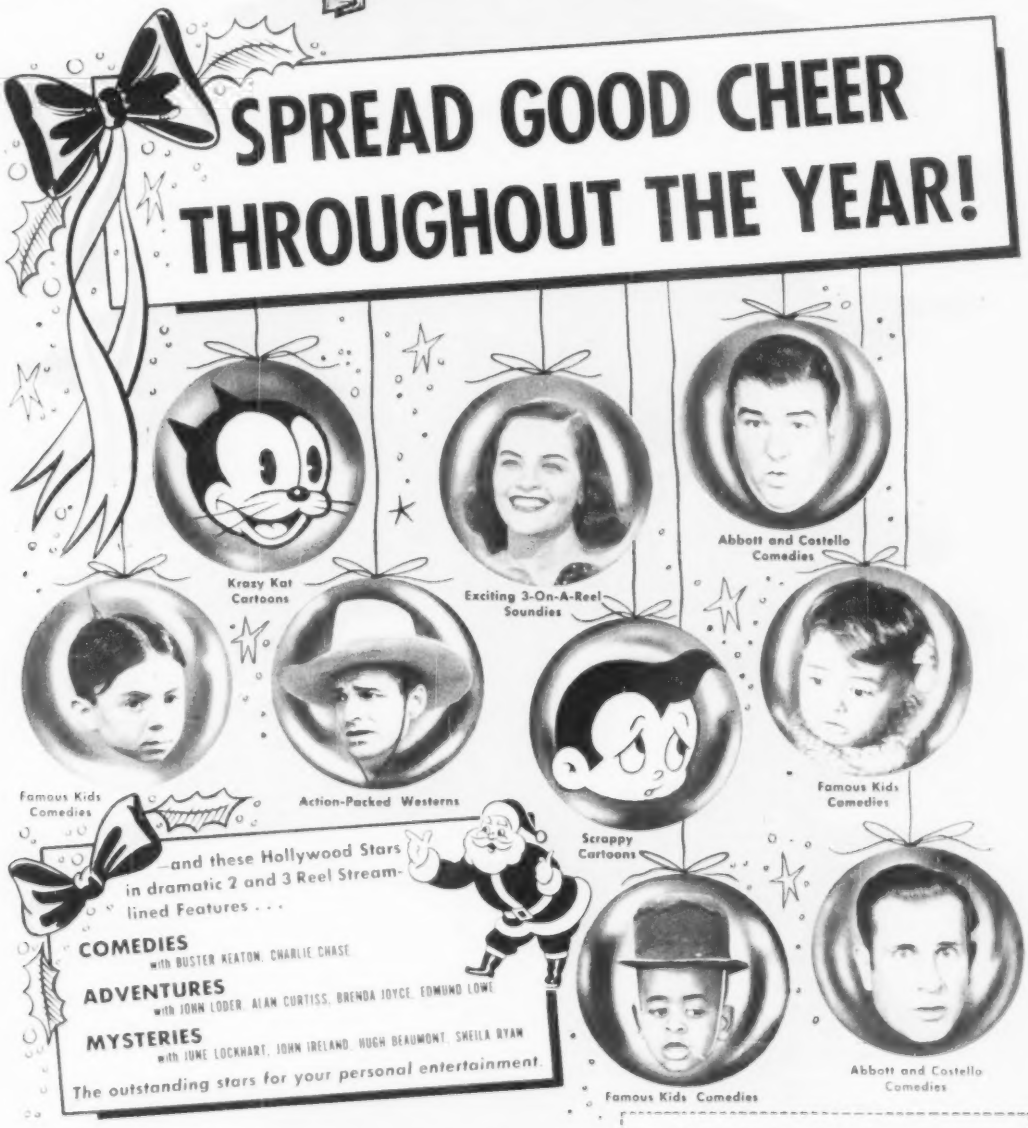

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How to Make Film Duplicates

(Continued from page 169)

starting button, or with the aid of a cable release.

Light Source and Exposure—The correct exposure is obtained by placing the light source at the proper distance from the camera as listed below.

A floodlamp stand is most convenient for this purpose. A reflector is not necessary but preferable—the greater amount of light obtained permits greater distances from camera to light source. What is the advantage derived from that? An example from darkroom technique will illustrate that point. From your experience in enlarging you will remember that if you have a short exposure time, let's say of two seconds, and you change it by one second, so that one print is made with one second, one with two seconds, and one with 3 seconds exposure, you will find a considerable difference in density; the 2 second print will be twice as dark as the one made with one second.

Original films are examined by this amateur to decide which ones merit copying—as gifts to relatives and friends.

If, however, you have an exposure time of 30 seconds, and change it for one print to 29 seconds and for the other one to 31 seconds, the three prints will have no noticeable difference in density.

The same thing happens in copying. If the floodlamp is three or more feet away from the camera, the distance can vary between one to three inches without affecting the quality of the copy.

For black-and-white copying any light source may be used, while for making color prints, only floodlamps should be employed. An exposure meter can be used for accurate exposures; a meter, used as for incident light, is held between the opal glass and the camera pointing toward the light source. Adjust the meter for the film speed as usual. Set the shutter speed of 1/30 second opposite the aperture 1.0 on the meter scale and observe the number of light units the meter scale shows as necessary for these settings. While holding the light meter between the opal glass and the camera aperture, move the light source forward

or backward until the pointer on the meter dial shows the light value necessary. The distances so received are for normally exposed films. If the original film to be printed is dense, move the light 1 to 1½ feet closer to the camera; if the original is thin, move the light 1½ to 2 feet farther away.

However, if you do not happen to own a photoelectric exposure meter, do not let it bother you because a meter is not necessarily required for this purpose. In the following descriptions of the various possibilities of copying, I list the distances for different light.

Possibilities of Copying

BLACK-AND-WHITE POSITIVES FROM NEGATIVES—

Recommended type of films: Kodak Fine Grain Positive; DuPont Fine Grain Positive.

Distances, camera to light: 3 feet for dense negatives; 4 feet for normal negatives; 6 feet for thin negatives.

Light source: Photoflood #2 (500 watt) in reflector. The positive film is developed as recommended by the film manufacturer to a good contrasty positive. Recommended developers and developing times: Kodak D-16, 7 to 15 minutes at 65 F.; Ansco 20, 3 to 4 minutes at 65 F.; DuPont PD-1, 8 minutes at 68 F.; Gevaert Positive, 7 minutes at 68 F.

BLACK-AND-WHITE POSITIVES FROM BLACK-AND-WHITE POSITIVES OR FROM COLOR FILM, USING REVERSAL STOCK—In still photography a positive from an original positive is usually obtained over a negative in two steps. In our process of copying motion picture film, the positive from a black-and-white or color positive can be obtained much more easily in only one step by using reversal film, which as you know, is the regular black-and-white 8-mm or 16-mm film. A finegrain film of Group 1, 2, or 3 is to be preferred.

Group 1—(Speeds: ASA 6, G-E 8 to 10, Weston 6): Kodak Pan Reversal, Gevaert Micro Pan, Kin-O-Lux Reversal #1.

Group 2—(Speeds: ASA 16 to 25, G-E 20 to 32, Weston 16 to 20): Gevaert Super Pan Reversal, DuPont #314 Pan Reversal, DuPont #324 Pan Reversal.

Group 3—(Speeds: ASA 32 to 50, G-E 40 to 64, Weston 24 to 40): Kodak Super Reversal, Ansco Hypan Reversal, Kin-O-Lux #3 Reversal, Kin-O-Lux T-V.

Group 4—(Speeds: ASA 64 to 125, G-E 80 to 150, Weston 64 to 100): Kodak Super-XX, Triple S Pan Reversal, Kin-O-Lux Gold Seal Reversal.

The correct light-to-camera distances in feet are:

	Magnification 1:1		Magnification #1	
	[illegible]	[illegible]	[illegible]	[illegible]
Film of:				
Group 1	1½	4	6	9
Group 2	2¼	6	10	13½
Group 3	3	8	12	18

The film is returned to the manufacturer's processing laboratories for reversal development.

BLACK-AND-WHITE NEGATIVES FROM BLACK-AND-WHITE POSITIVES OR FROM COLOR FILMS, USING REGULAR NEGATIVE STOCK—Some of your color films, or parts of your color

8 MM 16 MM

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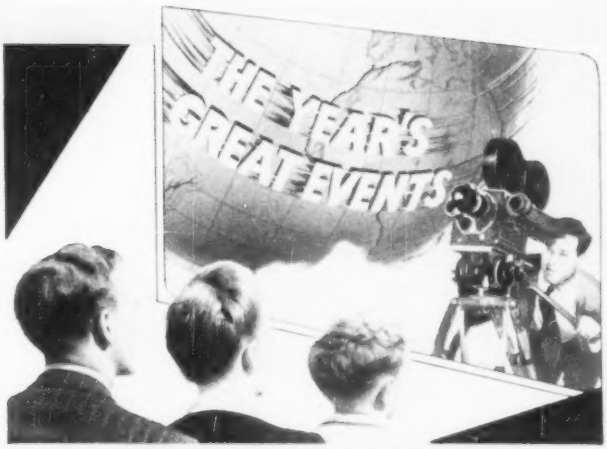

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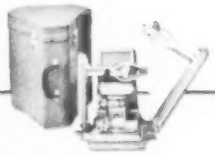

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films, will also be effective in black-and-white. Such films can be made easily on regular reversal film as described in the previous paragraph or over a negative. I do not recommend the latter method, as it requires much more time and offers no advantages except when several copies from one original are desired and the original film should not, or cannot, be put through the copying process several times. (If, for instance, you should need three copies of one film and the original cannot be kept long enough to make three copies, then the solution would be to make one negative and, at a later date, make three positive copies from the negative.)

For this process over a negative, any negative film, preferably finegrain of Group 1 or 2 is used.

Group 1—(Speeds: ASA 20, G-E 32, Weston 20): Kodak Pan Negative, DuPont 314 Negative.

Group 2—(Speeds: ASA 32, G-E 50, Weston 32): Ansco Supreme negative, DuPont 2301 Negative.

Group 3—(Speeds: ASA 80, G-E 100, Weston 80): Kodak Super-XX Negative.

The correct light-to-camera distances in feet are:

Film of:	[illegible]	[illegible]	[illegible]	[illegible]
Group 1	2¼	6	10	13½
Group 2	3	8	12	18

The developed negative should be soft. Recommended developers and developing times are: Kodak D-76, 10 to 20 minutes at 65 F.; Ansco 12, 8 to 12 minutes at 65 F.; DuPont ND-2, 4 minutes at 68 F.; Gevaert GD-103, 7 minutes at 68 F.

COLOR COPIES FROM COLOR FILMS—Eighty-seven per cent of the films taken by movie makers are in color, and you can make color copies of your color films just as easily as you can make black-and-white copies. All that is required is another roll of regular color film, tungsten type, such as Kodachrome or Ansco Color and the same set-up of camera and light source as described. Home color duplicating has an advantage too in that incorrect colors can be changed to a certain degree. You possibly have one or several rolls of tungsten type color film which you used outdoors without the proper filter (Kodak Wratten 85 or Ansco Conversion filter 2). This film with the unnatural looking blue color does not have to be thrown away but can be transferred into a completely satisfactory roll of color film by putting one of the reddish filters listed above before the aperture of the camera when making the print.

On the other hand, if your film library contains films that you won't show to your friends because everything looks too red (you used outdoor film with Photoflood illumination without the proper filter), then you place the Kodak Wratten filter 80 or Ansco Conversion filter 10 before the aperture when making the copy in the camera.

Slight changes in color can also be made with the Kodak or Ansco compensation filters. The rule to remember for the use of filters is simple: The filter

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See Page 193

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that would have given the correct color balance in the original but had been omitted, is used in copying. A bluish filter takes out the excess red while a reddish filter is used to cut down the blue cast. When using filters, the exposure is adjusted by shortening the distance from camera to light source.

The correct camera-to-light-source distance when making color copies of color films is seven feet (using a No. 1 flood in a reflector as a light source). If you introduce a conversion filter into the set-up, simply move your light two feet closer to the camera, making it then five feet away.

Now, you may decide that it is desirable to alter the color balance of one of your films in order to obtain a special effect. For instance, if you care to make a moonlight scene out of a normal daylight scene, simply copy it with the blue conversion filter in place.

CORRECTING EXPOSURE IN COPYING—Copying allows you to obtain a more even density throughout the entire film by varying the strength of the illumination (or the distance, which amounts to the same thing) at the proper points. For this type of work, a movie camera with a frame counter is virtually a necessity in order that you may know exactly when to increase or decrease your light intensity. The best procedure in copying a film to correct exposure is to project the original film, meanwhile determining the exact number of frames from point to point that are normal, too dense, or too thin. Put a zero mark on the base side of the film at the point where you plan to start, then jot down on a sheet of paper the changes in density corresponding with groups of frames. For instance, your sheet might read: O, Start; 0 to 120, normal; 121 to 436, underexposed; 437 to 511, normal; 512 to 701, overexposed.

Then when you run the film sandwich (the original film and the raw stock) through the camera for duplicating, you stop the camera when the "O" mark appears in the open aperture, and set the frame counter at zero. You then expose the first 120 frames, stop the camera, make the necessary change in the distance from light source to camera to compensate for the dense portion of film, expose to frame 436, reset lights, and so on.

FADE-INS, FADE-OUTS—These optical effects can be made with the equipment described here during copying. The simplest way is to move a piece of cardboard slowly across in front of the camera aperture, starting, of course, at the correct frame and completing the fade-in or fade-out at the proper time interval (about two seconds for a relatively fast fade and about four seconds for a slow fade). Use the method described above—that of marking the film with a colored grease pencil—so that you will know when to start and end the fade.

Your ability to produce faithful duplicate prints by this method of copying will, of course, be enhanced as you continue to practice and thus develop more experience. But even your first attempt should work satisfactorily if you follow the rules, and you will widen the scope of your camera in a new and unusual way.

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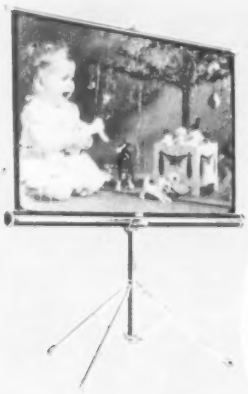

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Sound for Your Camera

(*Continued from page* 167)

for the final perfection of the wire recorder.)

Wire recording then gave way, to quite an extent, to tape recording. The tape was easier to handle, easier to splice, and was able to record a wider range of tones (approximately 50 to 8,000 cycles as compared to 100 to 5,000 for wire).

Then Camras and his fellow physicists took another logical step—they placed a thin strip of magnetic material (iron oxide) near one edge of a strip of 16-mm motion picture film, and used the film as a carrier for this magnetic material. Then they designed and built a tiny recording and playback head which, as the film passed through the projector, would first record on that thin iron oxide layer any sound desired, and then play it back through an amplifier unit as it passed over the playback head. This magnetic sound-on-film principle is the basis of our low-cost "dream" sound camera.

[*For a full discussion of Cameras' sound-on-film development, see May 1947* POPULAR PHOTOGRAPHY.—Ed.]

Before wire and tape were considered practical, engineers had brought sound-on-film by optical recording to a workable stage. There are two types—the single system and the double system. With the single system, the sound is recorded simultaneously with the image on the same film. When the film is developed, by the usual reversal method, both sound and image are ready for projection. (Just recently a single system sound camera of lower cost has been placed on the market, but the price is still beyond the average amateur's means.)

In the double system, the sound is registered on negative film in a unit called a sound recorder while the image is recorded on negative film in the camera (this can be done simultaneously or independently). Thus, with this system, we have two negatives, one carrying the sound track and the other carrying the image. These two negatives are then printed on a positive film which, after development, is used for projection.

Neither of these methods is as yet a perfect solution for amateur work. The double system requires three times the amount of film used in the final projection (although its greater flexibility makes it more suitable for professional work).

The single system also has its drawbacks. For best results the sound must be recorded on a fine-grain film—with characteristically slow emulsion speed. This slow emulsion is suitable only for taking pictures outdoors in strong light. With the single system, then, we must sacrifice either sound fidelity or emulsion speed. Furthermore, the development that is best for the image is not the most suitable for the sound track. Finally, editing becomes virtually impossible since the sound is recorded approximately 26 frames ahead of the image.

Magnetic sound-on-film using the Camras-Armour Research principle seems to

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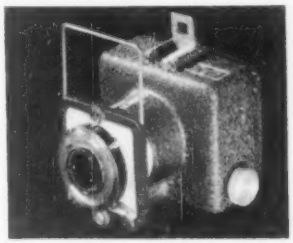

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be the solution to all these problems. It provides freedom of processing since we need consider only proper image development. It permits us to use any film (so long as it contains the magnetic track) since fine grain is not a necessity. Editing is simplified because the sound track can be erased in whole or in part and re-recorded at will. All the commentary and musical background can be added after the film is edited if you prefer to do it that way.

However, even though the Armour Research Foundation has licensed some manufacturers to incorporate the magnetic sound track principle in their cameras and projectors, none has as yet announced such a modification. This may be due primarily to hesitancy on the part of film manufacturers to bring out a film with the iron oxide band placed on it.

But let's get down to details of the amateur's dream sound camera. First requirements would be light weight and portability. This probably would mean the use of a spring drive in order to eliminate the weight of an electric motor and storage battery power supply. A spring with more power than that used in today's average camera would be necessary in order to drive longer lengths of film without re-winding. An accurate speed governor would be needed to assure constant velocity. One speed—24 frames a second—should be adequate. The case would be of a non-resonant material to dampen the vibrations of the camera, and the inner works should be of the "floating power" variety in order to keep running noise to a minimum. Film capacity should be at least 200 feet—with a running time of approximately five and one-half minutes.

The amplifier probably would incorporate four radio tubes of the miniature type—three for the amplifier proper and the fourth for the ultra sound frequency oscillator which provides the magnetic recording bias. Batteries would be of the hearing aid type. The amplifier unit and batteries could be housed in a lightweight container half the size of a portable typewriter case, carried by a strap over the shoulder to leave both hands free.

Sound could be monitored through a headset attached to a secondary coil wound on one leg of the recording head core. A better system—but one which would require an additional two-tube amplifier—would be to pick up the sound through a sound head direct from the track.

The playback-record head used with this magnetic sound system is spring-pressed against the film while it rides against a flywheel stabilizer. Such a sound head, according to Armour Research specialists, can be added to conventional silent and sound projectors with little trouble . . . and then you are geared for both taking, and projecting sound pictures.

The illustrations shown on page 167 represent my conception of the amateur's dream camera. I hope my conceptions are "sound" and that manufacturers of film, cameras, and projectors will work out a way so that the amateur's dream of a low-cost, light-weight, sound camera will come true.

Photo Posters

(Continued from page 53)

the type recommended for process work is best, such as Kodak D-8. After development the four negatives are fixed and washed.

These negatives are used to make another series of four diapositives *(not shown separately)* but development and negative material are not the same for all four. One highlight and one shadow diapositive on a process emulsion are developed in the high-contrast caustic soda solution, and the other ones of each group on normal emulsion are developed in a normal solution. This gives us two highlight diapositives and two shadow diapositives, one of each being of medium contrast and the other of very high contrast.

The diapositives are mounted together in pairs, emulsion-to-emulsion in perfect register, the two highlight diapositives together and the two shadow diapositives together. This can be done most easily over a sheet of glass illuminated from below—the top of an open contact printing box is excellent. Then each final diapositive sandwich is used *(as illustrated)* to make a final negative, again by contact printing on process film, but developing with the medium-contrast solution. This produces a pair of negatives, one with tones crowded together toward the light end of the scale, the other toward the dark. They are mounted together to make the final negative sandwich, which is used to make prints on contact or enlarging paper in the usual manner.

The process provides a wealth of opportunities for the photographer to exercise controls along the way, once he has mastered its fundamentals. By increasing or decreasing exposure at different steps along the way, and by selecting more or less vigorous developers, he can force the tones of the final picture up or down according to his own taste. Spotting and retouching can be performed at any step in the procedure, and densities in specific areas of negatives or diapositives can be controlled locally by using new cocaine or Farmer's reducer as may be desired. The process is rather long and laborious, requiring 15 sheets of film including the original negative, but any number of prints can be made with ease from the final negative sandwich.

Pictures planned for printing by chemical separation of tone should be lighted and exposed in the same manner as those to be produced by *isohelia*. Development of the negative should be somewhat longer than usual, for added contrast, and the print must be made on contrasty paper—at least one gradation harder than would be required to make a normal print. It is important to use a paper with a rich silver reserve. Agfa Brovira, available in Switzerland, has worked out well for me. There are a number of American equivalents.

The enlargement must be amply overexposed and overdeveloped—at least twice the normal exposure, with development carried on until the darkest shadows have reached the maximum black the paper is capable of reproducing.

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When the print is viewed by reflected light, highlights should seem white while halftones and shadows appear completely black. Viewed by transmitted light, the print should reveal some fine detail in the shadows. It is only by starting with the type of print described here that you can achieve a poster effect by this method.

Once the print has been developed, it should be fixed in a non-hardening hypo solution and washed thoroughly. Since the method involves toning, neglect of proper fixing or washing will cause staining of the highlights later on. Now the print is ready for the following steps, designed to break its curve of gradation and rebuild an image made up of fewer tones than were contained in the original.

It will be necessary to prepare three solutions—a bleaching bath, a toning solution, and a fixing bath. Formulas for these are as follows:

Bleach

Stock Solution A

Water	100 cc
Potassium Ferricyanide	1 gram

Stock Solution B

Water	100 cc
Potassium Bromide	1 gram

Mix solutions separately, as indicated. For use prepare a working solution as follows:

Solution A	20 cc
Solution B	20 cc
Water	160 cc

Toner Stock Solution

Water	1000 cc
Sodium Sulfide	500 grams

For use prepare a working solution by adding 30 cc of the stock solution above to 1000 cc of water.

Fixing Bath

Water	1000 cc
Hypo	250 grams

The print is introduced into the bleaching solution and agitated constantly in order to assure uniform action. Since the solution is very weak, action is slow and it is relatively easy to remove the print to stop the bleaching at just the right moment. Leave the print in the bath until the lightest tones of the image become completely white, and then remove and rinse in running water for 5 minutes. The decision as to when to stop bleaching is an important one, and it is here that the photographer has an opportunity to make use of his own artistic taste in determining the effect he wants.

After washing, the print is immersed in the toning bath very briefly—just long enough to affect the first step of the image. The toning action will continue for a moment after the print has been transferred to the washing water, and this fact must be taken into consideration. Premature toning of the darker tones must be avoided. It converts the silver image into silver sulfide, which can no longer be attacked by the bleaching bath. After 10 minutes washing the print is immersed in the hypo solution, and fixed until its milky appearance is removed and the untoned areas are black. Then it is washed again, and is ready for the second bleach.

The same bleaching solution is employed here, but the process is allowed to progress further. This phase of the procedure is an important one, and the length of the second bleach determines the range of middle tones that will be grouped together. I generally use a total of three steps in making a print by this method, the first covering highlights, the second middletones, and the third shadows. The second bleach is the longest one, and I continue it until details within the shadows begin to appear. No rule can be set up, of course, for this part of the process must be governed by your own artistic taste. After the second bleach the print is washed for 5 minutes.

The second toning operation is carried out rapidly, as was the first, and the print is removed from the toner as soon as the bleached-out portions of the image have reappeared. Here, again, it is important to avoid carrying the operation too far. After toning, wash again for 10 minutes, and fix as before. After another wash you are ready for the third step.

Here the same general procedure is followed again. The print is bleached completely—until the shadows are bleached out. Extremely close timing is not so important here, since there are no tones to be saved for a subsequent step. After a 5-minute wash the print is toned, this time until it achieves maximum density. Then it is washed again, fixed in hypo solution, and given the final wash before drying.

My experience has shown that these three steps are sufficient for most pictures, but of course you can repeat the process for as many different tones as you want. Too many steps, however, will produce a result more closely related to a normal photograph—the very thing we have been trying to escape in our efforts to achieve a poster effect.

An apparent disadvantage of this process is that the final image is brown instead of black-and-white. However, the print can be bleached and redeveloped if normal shades of gray are desired. First, prepare a bleaching solution as follows:

Bleach

Hydrochloric Acid concentrated	6 parts
Potassium Bromide (10 per cent solution	1 part
Water	3 parts

Pour the acid into the water, stirring constantly. Then add the Potassium Bromide solution. To solution, add a few drops of a 10 per cent potassium ferricyanide solution before use.

This solution transforms the silver sulfide into silver bromide, which then can be developed in strong sunlight with an ordinary paper developer to achieve a black-and-white print.

Now that you have reviewed these two methods you can judge the advantages and disadvantages of each. The quality of results obtainable by the isohelie system is very high, and any number of prints can be made with ease from the final negative sandwich. However, the procedure is rather complicated and demands much time and material. The result can be judged only after the whole process has been completed, and much effort is wasted if the final image is unsatisfactory due to an error in one of the early steps.

Although somewhat less striking, chemical separation of tone is likely to be much more popular. This system is much more simple than isohelie, and can be controlled much more readily because the whole operation takes place in daylight. It is much less costly, since only a single

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sheet of paper is required in addition to the solutions. If a number of prints will be required of the same subject, the finished print can be copied and the successive ones then can be made from the copy negative. Once you have become familiar with the steps in this process, you can complete a print in a little more than an hour.

If you would like to make some prints with a new look, try separation of tone to achieve a poster effect—either by *solarization* or by toning. You will have to be careful at every step of the way, for these are not pictures that you can turn out in a moment like contact prints. But once you have mastered either one of these processes, I think you will agree that the unusual results obtained are well worth the effort.

Ward Pease

(Continued from page 30)

ter. It must be remembered that something of the technical quality of a print can be lost in reproduction. If such a picture is pleasing to you, try to find out why. Study it as analyzed into the three component elements listed in the previous few paragraphs. As you begin to realize why you like such pictures, your appreciation grows and your capabilities in photography expand accordingly. Then you can see more clearly what is missing in your own pictures that fail to click.

There is one slight flaw in this parallel between music and photography, and someone is sure to point it out if I do not. Fortunately this difference favors the photographer. In music, the instrument used does have something to do with the beauty of the musical tone produced on it. Kreisler himself could not get a decent tone out of some cheap fiddles any more than a lot of amateur musicians who have not learned what good tone is could get it out of the master's priceless Stradivarius. The situation is not quite so serious for the photographer. After you get above a certain rather modest level, added money spent in a camera buys you little more in the way of capabilities, just conveniences. The same films, chemicals and papers are available to beginner and master alike at the same price. From there on the result depends on the photographer.

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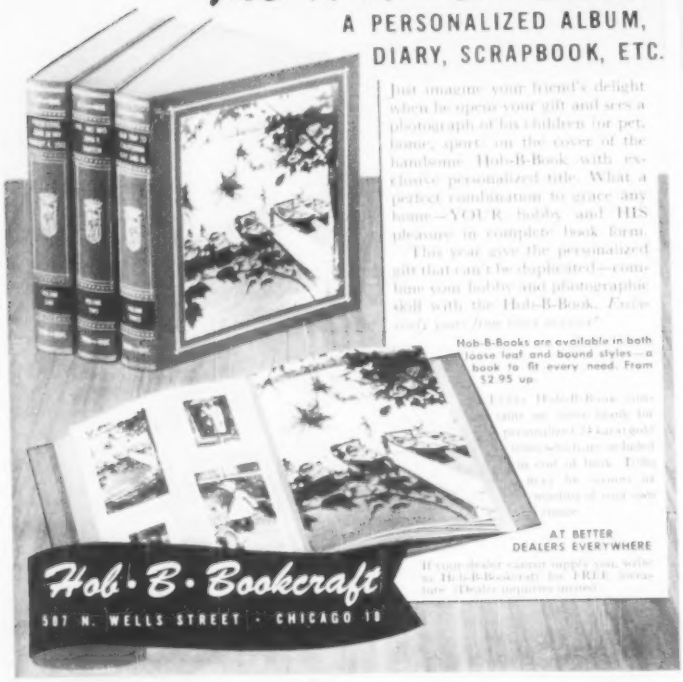

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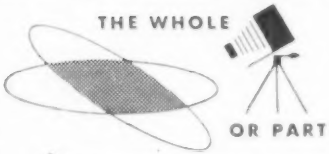

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Prize Winners—Color

(*Continued from page 129*)

"The Master" by Raymond La Marca, Los Angeles; "Night on the Midway" by Arthur Langford, Davenport, Iowa; "Little Charmer" by Vivienne Lapham, Los Angeles; "Times Square" by Arthur Levine, New York; "Oh, Mitter on the Wall—" by Dimitri LeZarek, Pontiac, Mich.

"At the Mountain Lake" by Werner Lüthy, Berne, Switzerland; "Prayer" by Midori, Dumont, N.J.; "Makeup" by Bern Mitchell, New York; "Capitolio" by Harry Mohlmann, Jr., Havana, Cuba; "Colorized Nude" by John McCormick, Los Angeles; "Study in Color" by Walter E. Owen, New York; "Waiting for Pres" by Ernest Palokas, New York; "Backstage" by Jules and Beatrice Pinsler, New York; "Silent Night, Holy Night" by Winston Pote, Lancaster, N.H.; "Out of the Blue" by Tony J. Pulone, Waterbury, Conn.

"Bubbles" by Randolph S. DeLong, Los Angeles; "The Bath" by Hal Reiff, New York; "Reflections" by Hal Reiff, New York; "Breathless" by John D. Sampugnaro, Bronx, N.Y.; "Travelers Interlude" by Harold B. Stoddard, West Orange, N.J.; "Museum Shelf" by Ken Watts, Roseland, N.J.; "Good Night, Everybody" by Lawrence Willinger, Los Angeles; "Interior and Antique" by Robert Rex Wilson, Traverse City, Mich.; "Order" by Howard Webber, West Orange, N.J.; "Cool" by Howard Webber, West Orange, N.J.

Prize Winners—Black-and-White

(*Continued from page 129*)

"Rose of Liberty" by Charles C. Hannigan, New York; "Corridor's End" by Harold H. Hodgland, Scio, Oregon; "Shane and the Lassie" by Julian Kahn, Beverly Hills, Calif.; "The Page" by Louis L. Kandler, Baltimore, Md.; "Moonlight Rendezvous" by Janet Kienle, Grand Rapids, Mich.; "No Use Fighter III" by Frank Kolofsky, Torrance, Calif.; "Rolling Around" by Wallington Lee, Bronx, N.Y.; "Lonely Man" by Irene Mulik, Kirkwood, Mich.; "Fence" by Gerd Meyer, Luxembourg, Belgium; "Sentry" by David A. Munro, East Orange, N.J.; "Low Tide" by David A. Munro, East Orange, N.J.

"The Ballerina" by Mario José Portillo, San Juan, Puerto Rico; "Fellow" by J. H. Pulver, Pompano Hill, N.Y.; "The Curious One" by Donald F. Rockwell, Columbia, Mo.; "Mr. Whiskers" by Michael J. Ker, Long Beach, Calif.; "Perspective" by Edward H. Sigel, Park Ridge, Ill.; "Contrast" by Charles A. Snyder, Charlotte, Mich.; "Contemplation" by William Spear, Memphis, Tenn.; "The Problem" by Ausif A. Syed, Pompano, India; "Bar Mitzvah Boy" by Leon Tendler, Detroit; "Journey's End" by Lionel J. Trimidge, Windsor, Ont., Canada; "Contemporary Nude" by Ernest E. Timms, Detroit; "Assembly" by Dr. Arthur M. Turck, Englewood, N.J.; "Chick Chat" by William Whitaker, Chemnitz, Forez, N.Y.; "Mowing Pinwood" by John Zaiko, Cleveland, Ohio.

70 Prizes, U.S. Savings Bonds, each $50.00

"Winning Up a Point at Rehearsal" by Robert A. Bergeb, Detroit; "Spot Across the Fire" by Silvio C. Bergel, Flushing, N.Y.; "At Rest" by Lee Blondell, Monterey, Calif.; "Eyelash" by Rosco J. Bodenheimer, Spartan, Fla.; "Cut-Head Light" by Robert Boston, Kalamazoo, Mich.; "A Desperate Try" by Patrick A. Burns, New York; "Oh, It's You Again!" by Pat Cordido, Silverdale, N.Y.; "And One for the Bridegroom" by Joe Clark, Detroit; "Point of View" by Wesley S. Coney, New York; "Morning Tide" by Stanley S. Cornwall, Pacific Grove, Calif.

"Foul Tooth" by Allie Filger Dewey, Chicago; "The Challenge" by Morris Scott Dillon, Los Angeles; "Skate For" by Jessie Dixon, Nashville, Tenn.; "A Tout Now" by Sam Fine, Jackson Heights, N.Y.; "Broadway" by Sam Fine, New York; "Lou Stiffies" by Romeo Ferrero, Havana, Cuba; "Firepower" by William M. Fiske, Aberdeen, Md.; "Sunday Morning" by Betty W. Hamers, Cincinnati, Ohio; "First Formal" by Lou Gardner, Detroit; "Fast Shave" by Joann Gerdt, Salt Lake City, Utah; "Master of Time" by Victor D. Grenda, Chicago; "Hidden Marriage" by Peter Gowland, Los Angeles; "Delight" by Peter Gowland, Los Angeles; "Joe Said Tension" by Pierre Grandchamp, Lausanne, Switzerland.

"Trance of Joy" by Bernard Green, Brooklyn; "White Blanket" by Harold W. Gunes, Fort Washington, N.Y.; "Just Lurking" by Ernest H. Hoist, Rochester, N.Y.; "Midshipman" by William F. Hoppelsberg, Altadena, Calif.; "Girl Swimmer at Pinning" by Fritz Horne, New York; "The Cloister" by Rene Jaeger, Vienna; "Inseparables" by Keith W. Jones, Villa Park, Ill.; "Lazy Susan" by Fred F. Kabala, Chicago; "Water Spritzer" by William L. Klender, Baltimore, Md.; "Joie" by Lane Lamb, Evanston, Ill.; "Flying High" by Wallington Lee, Bronx, N.Y.; "Empire State" by Gilbert Long, New York; "Schoolgirls Chatter" by Bob Long, Des Moines, Ia.; "Twilight Flight" by Lawrence R. Lowry, Malden, Mass.; "I Thee Wed" by Anthony Marsili, Jr., Rome, N.Y.; "Not Bring Today" by Frank McCarty, Acadiana, Mass.

"Crystal Clear" by Frank L. Miller, New Orleans, La.; "Working Nude" by John Morris, New York; "Departure" by Thomas J. Newett, Park Ridge, Ill.; "Fast Bite" by Eldridge G. Newhall, Santa Barbara, Calif.; "Indian Serenade" by Fred A. Nitz, Colgate, Iowa; "Michigan Avenue and the River" by O. L. Oberman, Morris, Ill.; "Anticipation" by Robert A. Parker, Toronto, Ont., Canada; "Waves on the Hill" by Charles W. Phillips, Downey, Calif.; "River Traffic" by Lewis C. Read, Chicago; "Brooklyn, U.S.A." by Bob Reynolds, Oklahoma City, Okla.; "Bobdogging" by William N. Robbins, Jr., Washington, D.C.; "Prudes" by Francisco Conde Roca, Barcelona, Spain; "El Artista" by Francisco Conde Roca, Barcelona, Spain; "Kids in the Park" by Michael J. Rill, Long Beach, Calif.

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"Apple Dunkers" by Ollie Fife, New York; "Misanthropic Mood" by Irwin M. Fine, St. Paul, Minn.; "Autumn in the Field" by Hon Eng Fung, Lampang, Thailand; "Mountain Playland" by Colin Peter J. Forrest, Victoria, B.C.; "Old Germany" by John G. Fox, Jr., Buffalo, N.Y.; "Impatience" by Nagao Fujitani, Takashima City, Japan; "Bushed" by John Gajda, Detroit; "Manhattan Mood" by Charles J. Gebest, Bronxville, N.Y.; "Modern Perspective" by Arieh Goldman, Tel-Aviv, Israel; "Ouch!" by Ronald W. Gordon, Oklahoma City, Okla.; "Figure Study" by Peter Gowland, Los Angeles; "Feath and Feathers" by Barbara Green, Brooklyn; "April Showers" by F. B. Grunzweig, Elmhurst, N.Y.

"Credo" by Max Gutmann, Zug, Switzerland; "The Man with the Rope" by Jos. Holsberghe, Antwerp, Belgium; "Easter-Saturday Glamour" by Jos. Holsberghe, Antwerp, Belgium; "Weston at Work" by Eugene M. Hanson, Los Angeles; "Study in Light and Shadow" by Sid Harris, Scranton, Pa.; "Story Teller" by Hans Heller, Givath-Brenner, Israel; "Evening Tide" by Zoltan Henczel, South Norwalk, Conn.; "Haunted House" by Allan L. Horvath, Dayton, Ohio; "Beaching the Surf Boat" by Cyril V. Jackson, Sydney, Australia; "Star Parade" by Rene Jentgen, Luxembourg; "Egyptian Tower" by Edgar L. John, Xenia, Ohio; "Still Life" by Charles H. Johnson, Kearny, N.J.; "Alluring" by Fred F. Kahale, Chicago; "Clouds of Destruction" by Bill Kelly, Chicago.

"Maltese Pups" by Howard M. Kinney, Tucson, Ariz.; "Summer Breeze" by Don Koeninger, Bakersfield, Calif.; "A Wistful Eve" by Janet Kopke, Grand Rapids, Mich.; "Climbing Up" by Dr. Ray R. LaFalle, Philadelphia, Pa.; "Canadian Snowfall" by Jack V. Long, Vancouver, B.C.; "New Snow on Pussycreek" by Gunnar Larsson, Stockholm, Sweden; "Lines and Light" by Fred E. Lawson, Stillwater, Okla.; "Dance in the Dark" by Wellington Lee, Bronx, N.Y.; "The Rubber Neck" by Dr. Victor A. Lockstieff, Detroit; "Let's Kiss and Make Up" by Dr. Victor A. Lockstieff, Detroit; "Bermuda Bound" by Laurence R. Lowry, Malden, Mass.; "To Aiwa" by R. Karla MacDonald, Chicago, Ill.; "Double Trouble" by Charles N. MacLeod, Los Angeles; "Chemo MAN" by William Mandel, New York.

"Hold It, Lucky!" by Paul H. Mansfield, Scarborough, B.W.I.; "Window Washer" by Steve Manville, Brooklyn; "Water Magic" by Clifford E. Matteson, Buffalo, N.Y.; "Karen" by George F. Merritt, Jackson, Mich.; "Venus Le Vette" by Riccardo Moncalvo, Turin, Italy; "Morning Bath" by Stephen H. Morely, Falls Church, Va.; "Summer Afternoon" by Omori Motonichi, Fukuoka City, Japan; "Wall of the Pipes" by David A. Murray, East Orange, N.J.; "New York Winter" by C. E. Nelson, New York; "Morning Mist" by C. E. Nelson, New York; "Nature's Power" by C. E. Nelson, New York; "To Market" by Hallidge O. Newhall, Santa Barbara, Calif.; "The News" by Alfred Nielsen, Noestved, Denmark; "Dignity" by Emil A. Nyss, Calcutta, India; "Sunrise" by Emil A. Nyss, Calcutta, India.

"Crossfaces" by Yoshi R. Okamoto, APO 777, c/o Postmaster, New York; "Designing Female" by Richard A. Palmer, Toronto, Ont., Canada; "City Scene" by Robert L. Pease, Alameda, Calif.; "Attention" by Stig Pettersson, Lokeping, Sweden; "Profile in Glass" by Lewis T. Reed, Chicago; "Worker in Hay" by Jack Reiner, Philadelphia, Pa.; "Gentle Wind" by Akira Sasaki, Jodoji-ku Kyoto, Japan; "New Snow" by Josef Scaglea, Seattle, Wash.; "Matilda" by Irving Schlickman, Hushing, N.Y.; "Solo" by Donald L. Schlueter, Los Angeles; "Army Trouble Makes Stanford Fumble" by Ernest Sinto, Rosedale, N.Y.; "Study" by William Speer, Newport, Tenn.; "Model Flight" by David M. Stanley, Buffalo, N.Y.; "Monkey Business Aint So Bad" by John L. Stewart, Tulsa, Okla.

"The Volunteer" by W. Stott Studios, Madison, N.J.; "Rush" by Lester Sutton, Los Angeles; "Freeway F.M." by Fred Swartz, Los Angeles; "Jungle Drum" by C. Court Trask, Coronado, Calif.; "Golden Rain" by Martin Verlaan, Heerlen, Netherlands; "Weekend 1950" by Martin Verlaan, Heerlen, Netherlands; "Morning" by Thorsten Valund, Nykoping, Sweden; "Twisting Tree" by H. W. Wagner, Worcester Mass.; "Time for Dive" by Ernest W. Walker, Los Angeles; "Materials for Industry" by Doris Martha Walker, Cleveland, Ohio; "Come and Get It" by Cornelius E. Westveer, Pleasant Ridge, Mich.; "Robert E. Lee" by Richard A. Wood, Des Moines, Iowa; "Going Home" by William S. Woodward, Phoenix, Ariz.; "Jade Plant" by John Zarke, Guatemala, Guatemala.

Press

(*Continued from page* 14)

setup. Headquarters were located in the basement of historic Washington Memorial Church. Pictures were transmitted by wire direct to the *Inquirer's* office. Johnston, Mooney, and Culross took 425 negatives, made 149 prints and 39 transmissions on the wire—and that is some record number for a picture story.

* * *

FOR his "outstanding contribution to photography in direct color and his willingness to share his professional experience with his fellow photographers," Edward H. Johnson, head of the *Chicago Tribune's* color photography studio, recently was awarded an honorary membership in the American Society of Photographers. The award was made in Chicago by John Lavecchia, newly elected president of the organization; Albert R. Buchman, retiring president; and Lawrence Blaker, secretary.

E. H. Johnson

* * *

THERE'S no stopping Sylvester Montecuollo, photographer with the *Jersey Journal*, Jersey City, N. J., when he goes after a picture. Recently he gazed upward at a cat treed on the cross arm which supports a high tension transformer on a pole on one of the city's streets. Shoving a 30-foot ladder against the pole, the undaunted Jersey photog, clutching his heavy camera, went up and made his picture.

* * *

DR. MURRAY S. BERKE, a New York dentist, was the enterprising photographer. One morning, while busying himself in his office, he glanced outside his window. There, at the roof's edge on a building opposite he saw a child holding on for dear life to a television aerial. Berke hurriedly sent his assistant to rescue the child and called police. The dentist, a real photography fan, grabbed his camera and snapped a remarkable set of pictures from the moment of the child's perilous hold until his rescue—a sequence which filled three full pages in the *New York Mirror* and gave the paper one of its grandest scoops in years . . . Moral: Always have your camera packed and ready for that big news shot!

* * *

BEING a press photographer, you'll run into some mighty odd things on your job. But one of the oddest fell to the lot of Martin Kothra, *Omaha World-Herald* staffer. He taught a duck how to swim. Out in Dunlap, Iowa, a duck named Dandy was born without the customary webbed feet. While papa and mama and the rest of the youngsters went swimming, all Dandy could do was to sit on the bank and watch. She lived the life of an ugly duckling until Kothra, a former underwater demolition expert, came along and restored her to a somewhat normal life. Kothra, remembering

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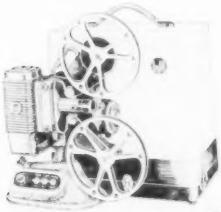

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his wartime Navy training, fashioned a pair of fins from tire patching material, fastened them to Dandy's feet and dropped her into a tub of water. At first Dandy sank like a load of pig iron. She hooked her neck on the edge of the tub and kicked a few times. Then she caught on and began swimming around the tub with a pleased grin on her kill.

* * *

WILBUR H. PORTERFIELD, veteran *Buffalo* (N. Y.) *Courier-Express* staffer, was honored recently when he had 50 years of his work displayed at the Buffalo Historical Society.

* * *

JOHN SCHMIDT, 73-year-old *Cincinnati Times-Star* photographer and dean of the city's lensmen, was honored recently with a lifetime membership in the Cincinnati News Photographers Association.

* * *

MISS RUTH CHIN, photographer on the *Muncie* (Ind.) *Star* and *Muncie Evening Press*, won the major prize in the Indiana Associated Press photography contest. Her winning feature picture, "Just a Friend of the Family" depicted a family of dogs with a monkey. It won the top honor, the Bushemi award, and $25 in cash.

* * *

THERE was a story behind the story of the rifle slaying of three Elmer, Minn., town board members. Three women handled the Associated Press' news and photo coverage. First word of the shootings came from Mrs. Marge Maki, a Duluth photographer and wife of a policeman. She telephoned the essentials for a bulletin to the AP bureau in Minneapolis, then grabbed her camera and took off in a borrowed automobile for Elmer, 40 miles northwest of Duluth in backwoods country. The Minneapolis bureau went after more detail by telephone and contacted Mrs. Dick Van Schyndel, wife of the storekeeper at Meadowlands, four miles from Elmer. She relayed the questions to the Meadowlands constable and repeated his answers. Also sent to Elmer was a regular AP stringer, Mrs. V. Rae Harris, editor of the weekly *Forum* at Floodwood, Minn., 18 miles from Elmer. She later reported that the slayer had killed himself. Immediately after arriving at the scene, Mrs. Maki shot several pictures of the school house and then scurried to a nearby cabin to get a picture of the slayer's body. Two of Mrs. Maki's pictures moved on the Wirephoto network. Five more were serviced regionally.

* * *

ROGER TERHUNE, *Passaic* (N.J.) *Herald-News* staff photographer, took a shot in the dark one night recently. Armed with nothing more lethal than his camera and a flashlight, Terhune went trailing through an alley for a man who had just shot his wife to death in Passaic. In his desire to get a picture of the slayer, Terhune disregarded the fact the slayer might get him. He didn't get his man, but he did find the murder gun, dropped by the killer as he jumped the back fence. Finding the weapon furnished Terhune's paper with a good spot shot, led to suspension of a rookie policeman who had furnished the gun to the murderer and eventually led to the solution of the crime after a manhunt that led all the way to Somerville, Mass. If you think Terhune wasn't taking a chance, there was one bullet left in the gun when he found it.

* * *

OBRIN S. SPENCER, staff photographer on the *Hartford* (Conn.) *Times*, is a great one for speed—in handling a news camera and piloting a motorboat. He was the only Hartford racer to take a first place in the first day's motor races at Highland Lake, Winsted, Conn., winning the Class B event.

Year's Hottest Day (above) won first prize—a console television set—in the second quarterly Sylvania Superflash Press Photo Contest for Jack Gorman, *San Francisco Examiner* staff photographer. The model is Jack's daughter, Susan. Gorman is seen (below, left) receiving the award from Howard Luray, right, representative of Sylvania, and congratulations from Ken McLaughlin, president of National Press Photographers Association.

* * *

ANNUAL election of officers for the St. Louis Press Photographers Association resulted in the following: Bruce Bacon, *Globe-Democrat*, president; Floyd B. Bowser, *Star-Times*, secretary; and Lou Phillips, *Post-Dispatch*, treasurer. The organization voted to invite into membership full-time news photographers of accredited newspapers in the Metropolitan area, which includes Alton, Edwardsville, Collinsville, East St. Louis, and Belleville, Ill., and the *St. Louis Argus*, Negro newspaper.

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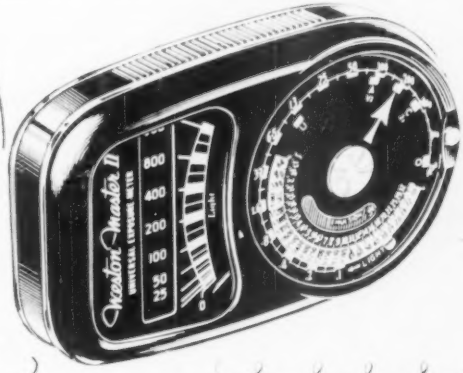

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THE LAW AND THE CAMERA

LEST HE BE SUED for the price of a made-to-order darkroom, the commercializing amateur photography fan ought to have some slight knowledge of law, libel and otherwise. Ignorance can be humiliating as well as expensive.

Perhaps the most frequently violated laws are those prohibiting trespass. Newspaper photographers often break these laws and escape prosecution chiefly because the persons involved are ignorant of the law. Despite this apparent immunity, it is well for the amateur to be aware of the possibilities before climbing over the garden wall for a shot of the pretty rhododendrons.

Pictures which are damaging to a person's reputation may be, and probably are, libelous. Legal precedence has established the acceptance of truth in a libel suit as proof of innocence. However, though pictures never lie, technical factors often yield deceptive results. So always consider Mrs. Ermine Housecoat's reputation before selling that picture of her leaving Joe's Joint. She may have gone in there to call a cab.

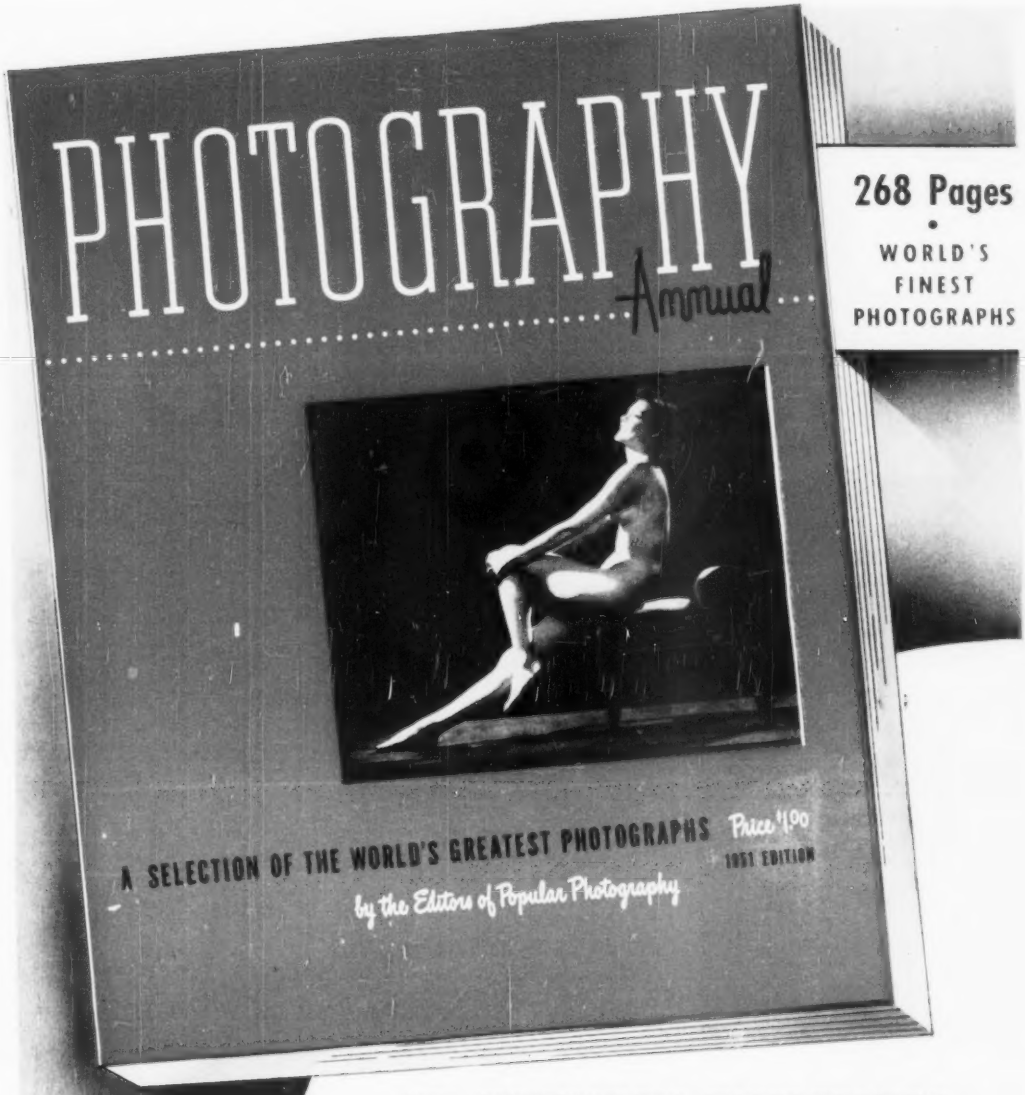
One of the laws most applicable to the photographer is the one which guarantees right of privacy. This law assures the individual the right of privacy in his castle or on the surrounding grounds—"part and parcel" the lawyers delight in calling it—and in his place of business. It also offers some interesting problems.

Suppose, for instance, that Lover LeRoy, the famous man-about-town and marriage addict, is being sued for divorce by his eighteenth wife, and you happen to be passing his home and see him playing croquet in his back yard with a young and beautiful career (in the chorus at Munski's Burly-Q—Eleven Ravishing Beauties. Count 'em—Eleven) girl. You have your camera and you know that the tabloid will pay well for a picture of the back-yard bunny-hug. But don't snap that shutter, Bub. Lord LeRoy is on his private domain and is entitled to absolute privacy. Shooting a picture is a violation of this right.

On the other hand, if you find Mr. LeRoy on a public beach under the same circumstances, you can click the shutter to your heart's content. You might even ask them to pose for you if you have that much gall. Out there he's in reputable activity in public and does not have the same right of privacy.

A picture to be used for advertising must have a signed release from every person in the picture. To be on the safe side, don't forget the little guy in the background with his back to the camera who was putting hinges in barrels.

The law makes a fine distinction between the ownership of a picture and the right to publish it. The photographer owns the negative and can do with it what he pleases so long as the image is not involved. That belongs to the subject in the picture and cannot be used without his permission. This point should be remembered when the man from *Spook* magazine comes to buy the portrait you took of "Miss Corkscrew of 1950."—*Dick Canty, Columbia, Mo.*



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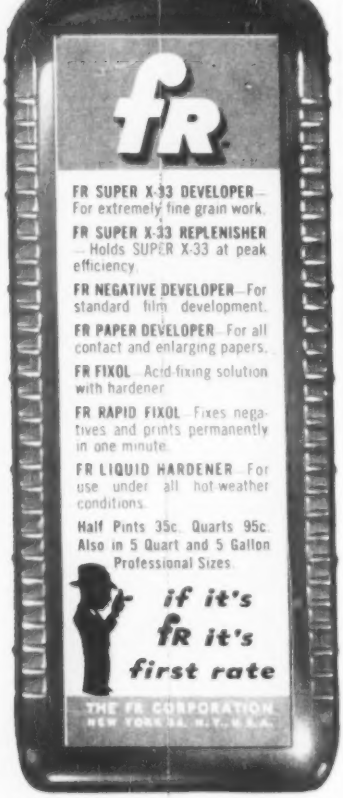

NOTES ON THE PICTURE SECTION

PAGES 56-57
1ST PRIZE—BLACK AND WHITE

My World Is Growing is a dynamic picture which tells a powerful story. It was made by W. Stuart Suydam in his Madison, N. J., home, and won him the top honor in the black-and-white division of the big 1950 contest. Suydam, an advanced amateur, wanted to tell the story of the sightless young who must first learn to read Braille so they can acquire knowledge through their fingertips. In order to make a picture that would be technically correct, the photographer consulted teachers of the blind and so learned the proper position for the small model's hands as well as the right expression. He in turn coached his sighted young son, Stuart, who posed for the prize-winning picture. The picture was taken in the photographer's basement studio, where he used an old blanket for a background. A card table covered with black cloth provided the support for the book. Dramatic lighting was achieved with a 500-watt spot and a No. 1 floodlamp. Suydam took the picture with a 4x5 Anniversary Speed Graphic and 135-mm Optar *f* 4.7 lens. The exposure was ⅕ second at *f* 16 on Kodak Super Panchro-Press Type B film.

PAGES 58-59
2ND PRIZE—BLACK AND WHITE

A. Aubrey Bodine of Baltimore, awarded second prize in black-and-white for *Early Morning Charge*, has made a picture strongly reminiscent of a Civil War battle scene. The photographer used a 4x5 Speed Graphic equipped with a 127-mm Kodak Ektar *f* 4.7 lens. Exposure, through a medium-yellow filter, was 1/200 second at *f* 8 on Kodak Super Panchro-Press Type B film. Bodine took this shot in a Baltimore city park. To blot out the houses which surrounded the area, he induced an officer of the Edgewood Arsenal to lay down a smoke screen between the horsemen and the unwanted background. For safety's sake, the fire department was alerted.

PAGE 60
3RD PRIZE—BLACK AND WHITE

A 9x12-cm Bee Bee camera, a 150-mm Schneider Xenar *f* 3.5 lens, and some deft retouching were employed by Richard A. Panter of Toronto, Canada, to produce his well-composed prize-winner, *Reflections*. He used four No. 2 floods to light the sides and background of the setting and a "ring" light consisting of ten 100-watt lamps as the main source of illumination. Exposure, on Kodak Super-XX film, was 1/5 second at *f* 8. A white background was placed behind the subject and lighted with a flood so that the background reflected in the mirror would appear white. The set was prearranged so that it only was necessary to adjust the mirror to center the figure's reflection. When this was done the shutter was tripped. Panter, an amateur who specializes in high-key work, writes: "Since a suitable mirror and chair were not available, it was necessary to do extensive retouching. A master print was made on 11x14 Opal G paper and desired alterations were made by removing the unwanted parts of the print and drawing in the mirror, etc. A copy negative then was made of the doctored master print. From the copy negative Panter produced his high-key study.

PAGE 61
4TH PRIZE—BLACK AND WHITE

Lawrence R. Lowry of Malden, Mass., made the striking photograph of the sea pounding Minots Light with a 5x7 Fairchild C-8 aerial camera, a 15-in. Wollensak *f* 5.6 telephoto lens, and an Aero No. 2 haze filter. Exposure was 1/300 second at *f* 11 on Kodak Aerographic Super-XX film. No photographic tricks were employed to show the waves almost reaching the top of the structure. Lowry, who at 55 has been doing aerial work for 17 years, states that when a heavy sea is running, it is an awesome sight to watch the waves climb and often pass completely over the Minots Light, which is 114 feet above the shore at Cohasset, Mass. The waves seen in this prize-winning shot are about 50 feet high. Lowry also writes: "Any photographer who does aerial work for a living knows that a good pilot is more than half the battle. Lawrence Hayward, who flew this job for me, is one of the best."

PAGE 62
5TH PRIZE—BLACK AND WHITE

Winner of the fifth prize in black-and-white, *Patterns on the Pane*, was made by Janet Kunkle of Grand Rapids, Mich. The pensive model is her daughter, Jill. Mrs. Kunkle used a 2¼x2¼ Model C Ciro-flex and 85-mm Wollensak Velostigmat *f* 3.5 lens to take this picture made in her home. Illumination was natural daylight, and shadow areas were filled in with the aid of a reflector. Exposure was 1/10 second at *f* 5.6 on Kodak Super-XX film. The picture was made as a camera club assignment on the subject "rain," and the critic who judged the prints in the club's competition awarded it first place. It also won top honors in another local club's competition.

PAGE 63

After-Dinner Speaker is the result of Barbara Green's desire to photograph her neighbor's cat in a different manner. Mrs. Green, who lives in Brooklyn, used a 2¼x2¼ Rolleiflex equipped with a 75-mm Zeiss Tessar *f* 3.5 lens. Exposure, through a medium-yellow filter, was 1/50 second at *f* 11 on Ansco Superpan Press film.

PAGE 64

Fascination was made by John Gajda of Detroit with a 2¼x2¼ Kodak Reflex II camera equipped with an 80-mm Kodak Anastar *f* 3.5 lens. The subjects—Gajda's two sons—were lighted with three reflector-flood units. Exposure, on Kodak Plus-X film, was 1/50 second at *f* 6.3. The photographer says that his biggest problem in taking pictures of his boys is to get them in the mood. New toys usually hold their attention and, in this case, the spinning Lazy Susan fascinated them both long enough for Gajda to set up his lights, compose the picture, and trip the shutter.

PAGE 65

Sam Falk, for 24 years a staff photographer on the *New York Times*, recognized a humorous situation while on an assignment, and came up with his story-telling picture, *Guards' Little Helper*. Falk took this shot with a 2¼x2¼ Automatic Rolleiflex and a 75-mm Zeiss Tessar *f* 3.5 lens. His exposure was 1/50 second at *f* 18 on Kodak Super-XX film. The youngster is Bobby Novel, who was watching Falk photograph the guards. When this six-year-old started mimicking the officer in the foreground, Falk stepped back and set this picture.

PAGE 66

Crystal Clear, by Frank L. Miller of New Orleans, was made with an 8x10 Dearborn view camera and a 19-in. Kodak Ektar *f* 6.3 lens. Taking this shot represented a challenge. Miller met it by placing the crystal on a white shelf. A piece of polished plate glass was positioned perpendicular to and resting on the shelf so that it acted as a support for the dish. A 150-watt reflector-spot unit was placed below the shelf and directed up on a white background behind the setup. Once Miller had arranged the setting, the making of the picture was a simple procedure. Exposure, on Kodak Super Panchro-Press Type B film, was 2 seconds at *f* 22.

PAGE 67

Contemporary Nude, by Ernest E. Timms of Detroit, was made with a 4x5 custom-built camera and a 125-mm Zeiss Tessar *f* 4.5 lens. The shutter speed for this solarized shot, made on Kodak Super-XX film, was 1/5 second; the aperture was determined by meter reading. Lighting was provided by a 500-watt spot, a No. 2 and a No. 1 floodlamp. Timms has developed his own solarization technique. He exposes his film normally and then develops it in a tray for two-thirds of the normal developing time. The negative is then rinsed in clean water, placed on a black base, and exposed to the light of a two-cell flashlight having a lens of its own. The exposure for white light lasts for one second, and the flashlight is held at a distance of two feet from the negative. Timms then develops the film for the one-third time remaining. Timms finds that the most satisfactory results are obtained by photographing light subject matter against a black or dark background, and prefers to use No. 3 contrast paper when printing his solarized negatives.

PAGE 68

Accent, by Boris Dobro of Santa Barbara, Calif., was taken at the site of a house on talk at Avila, Calif. The photographer, who had accompanied a group of his photo students on a field trip, used a 2¼x2¼ Rolleiflex equipped with a 75-mm Zeiss Tessar *f* 3.5 lens. Exposure, through a medium-yellow filter, was 1/100 second at *f* 11 on Kodak Super-XX film. The subject in Dobro's well-executed outdoor shot is one of his students, who was included in the scene to give it a center of interest.

PAGE 69

Earle W. Brown photographed his tiny daughter, *Marilyn*, on the stairway of the New York State Library in Albany, N. Y. He used a 2¼x2¼ Automatic Rolleiflex, a 75-mm Zeiss Tessar f 3.5 lens and a medium-yellow filter. Exposure was 1/100 second at *f* 11 on Kodak Super-XX film. Brown decided to make this photograph because he was so impressed with the library's massive columns. He felt, however, that a figure was needed in the scene to point up the monumentality of the columns. Therefore his small daughter was drafted as the model, and the finished picture suggested his title, *Miss and Mass*.

PAGE 70

David A. Murray of East Orange, N. J., produced *Low Tide* with a 2¼x2¼ Anniversary Speed Graphic, a 15-in. Zeiss Tessar f 4.5 lens and a medium-yellow filter. Exposure, on Kodak Super-XX film, was 1/50 second at *f* 16 with bright sunlight serving as the only illumination. Murray had spent one morning walking along Delaware Bay near Cape May, N. J., looking for picture material. He was intrigued with a cloud formation that appeared when he came near a mud flat. He also noticed a little boat sitting on the flat. To these two elements he wanted to add the human-interest touch. The promise of an ice-cream cone brought forth a little boy who posed next to the boat.

PAGE 71

Gretchen H. Goughnour took *Breeze* while on a camera club cruise on Chesapeake Bay aboard a three-masted schooner. She used a 2¼x3¼ Super D Graflex equipped with a 7½-in. Kodak Ektar f 5.6 lens. Exposure, on Kodak Super-XX film, was 1/100 second at *f* 22. To portray a situation common to weather and water, Mrs. Goughnour double-exposed her picture of the men in the boat with a sky negative. For accurate masking she used a specially-designed device to prevent overlapping or off-registry of images.

PAGE 72

Lachlan M. Sinclair of Burlingame, Calif., was attending practice exercises of a parachute battalion at Fort Benning, Ga., when he took this interesting picture. The camera used was a 4x5 Pacemaker Speed Graphic equipped with a 127-mm Kodak Ektar f 4.7 lens and medium-yellow filter. To capture the soldier swiftly descending from the sky, Sinclair made an exposure of 1/200 second at *f* 16 on Kodak Super Panchromatic-Press 4x5 B film.

PAGE 73

Boris Carmi of Tel-Aviv, Israel, was covering the movements of a military patrol in the Negev desert when he took his striking photograph entitled *Mounted Patrol*. The unit had entered a burning village, and when the order to halt was given Carmi quickly dismounted and snapped the picture. He used a 2¼x2¼ Rolleicord equipped with a 75-mm Zeiss Triotar f 4.5 lens. Exposure, through a medium-yellow filter, was 1/100 second at *f* 11 on Gevaert film.

PAGE 74

Archibald Fukutomi of Waimoku, Hawaii, used a Brownie Target Six-20 box camera loaded with Kodak Super-XX film to produce the striking picture found on this page. Fukutomi is a professional photographer who made the most of an amateur camera having an instantaneous exposure combination of about 1/50 second at *f* 12. He used sunlight for illumination and shot his subject against a pure white sky. This resulted in an interesting photograph almost devoid of gray tones. M. Kawakami is the model. To supplement the composition of a new building's steel framework, Fukutomi had a rope strung from the center of the setting to one of its corners.

PAGE 75

Repose, by Edward Cambs of Dayton, Ohio, was made with an 8x10 view camera that was fitted with a 5x7 back and equipped with a 12-in. Wollensak Velostigmat f 4.5 lens. Exposure, on Agfa Triple S Ortho film, was 1/10 second at *f* 8. Cambs, a professional portrait photographer, lighted the setting with two No. 4 floods which he directed at a sheet of light-blue seamless background paper. The rays of light reflected from this background semi-silhouetted the model, Cleo Norcof.

PAGE 76

Siegfried R. Gutterman of Los Angeles made *Swing High* to show a group of his photographic students how a cameraman can control composition, lighting, and general pictorial effect with taking action pictures. He used a 2¼x2¼ Automatic Rolleiflex equipped with a 75-mm Zeiss Tessar f 3.5 lens. Exposure, through a medium-yellow filter, was 1/200 second at *f* 11 on Kodak Plus-X film. The model is Mary Greves. Gutterman, a professional photographer, lectures and teaches courses that a select critic judged his photograph to range so bad signed it at both the top and bottom—so that it could be viewed either way. Gutterman, however, feels that his definite, pre-determined control of composition has produced a successful effect in either position.

PAGE 77
1ST PRIZE—COLOR

This natural and appealing action shot of Model Sherry Harkins and little Judy Fishback skipping rope is the work of the well-known photographer John Fishback, who lives in Sacramento, Calif. *Jumpin' Double*, chosen by the judges as the top color winner in the 1950 contest, was the first picture Fishback took with a newly-acquired 7-in. Kodak Aero Ektar f 2.5 lens. While experimenting with it, the photographer decided to capture his models doing something that would look natural and have appeal. At the same time he wanted to show as much artistry as possible. He used a 5x7 Anniversary Speed Graphic loaded with Ektachrome Daylight Type film. Exposure was 1/500 second at *f* 2.5. Illumination was supplied by the sun and four G-E Focal Plane No. 31 flashbulbs which had been dipped in a blue dye.

PAGE 78
2ND PRIZE—COLOR

Walter E. Owen's unusual and artistic study, *Model and Motif*, was recognized by the judges as being one of the most striking color transparencies entered in the 1950 competition. Owen, who lives in New York City, started taking pictures in 1912 and experimenting in color around 1916. He specializes in ballet and dance photography. The subject in this shot is a young ballet student who supports her pose by modeling "Her dance training," writes Owen, "makes her especially good because of her ability to control her body for posing." The photographer shot a 4x5 view camera equipped with a 6½-in. Zeiss Tessar f 4.5 lens. Ex-

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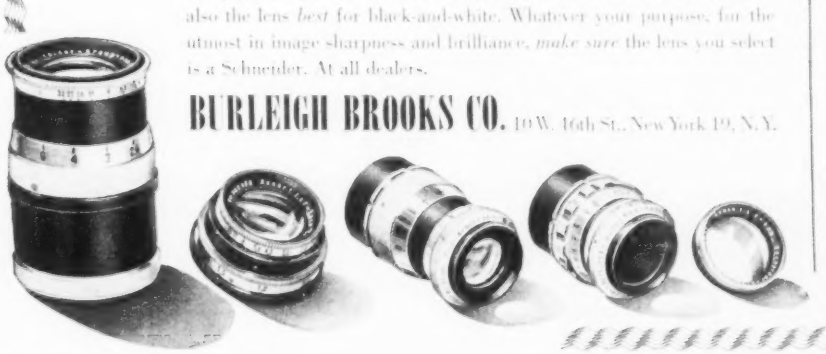

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PAGE 79
3RD PRIZE—COLOR

Hal Romel of Salt Lake City was awarded third prize in the contest's color division for his beautiful and well-planned transparency of a silhouetted hunter and his quarry. *On The Way* was taken on the shore of Great Salt Lake with a 1/25 Speed Graphic and a 5-in. Kodak Aero Ektar f/2.5 lens. Exposure, on Ektachrome Daylight Type film, was 1/60 second at about f/4. This shot was planned long before it was realized. The photographer picked the locale, coached and positioned his subject, set up decoys, wound his Graphlarge shutter, and settled down in the water brush and bird to wait. When a large flock of birds started to fly in, the hunter quickly arose and assumed his pose. A second later Romel tripped his shutter. He writes, "The exposure was much too fast for this film, so a compensation was made by giving the emulsion a three-hour hypersensitizing treatment before processing it."

PAGE 80
4TH PRIZE—COLOR

Photographer Sigurd Swanson's pleasing-looking shot of little Susan Chesson was taken on the cellar steps of a Gladstone, N. J., home. Swanson originally had planned to take black-and-white only of his tiny model. However, when the shooting session was half completed he noticed that he had a bobbin loaded with Kodachrome Daylight Type film, and decided to make an exposure on it, too. The camera used was a 4x5 Brand equipped with an 8¾-in. Goerz Dagor f/6.8 lens. The photographer took careful meter readings of the setup because he was not positive of the exposure to be made, and because of the tremendous contrast between the intense sunlight streaming down the stairway and the dark shadows. In order to get sufficient light on Susan's face, Swanson had her open a book and pretend to read. The white pages reflected the soft modeling light needed.

5TH PRIZE—COLOR

While attending a PSA convention in St. Louis, Sam J. Vocan of Toronto, Canada, made the most of a Missouri rainstorm to record the colorful street scene. *St. Louis in The Rain* was awarded fifth prize in the color division of the contest. Vocan used a 35mm Contax I camera fitted with a 3-inch Sonnar f/1.5 lens. Exposure, on Kodachrome Daylight Type film, was 1/25 second wide open.

PAGE 81

Elegance—according to the photographer, John Alexander of New York City—is what made the capture the beauty of the model, Mary Lynn. The camera used for this picture, taken at New York's Jones Beach, was a 4x5 Model D Graflex equipped with a 7¾-in. Ektar f/4.5 lens. Exposure, through a dark-yellow filter, was 1/10 second at f/8, on Kodak Super-XX film. Alexander writes, "I wanted time to stand still and give the event to an excellent dancer who was able to perform on soft sand."

PAGE 82

Bonsbel Rendezvous was photographed by Mrs. Janet Knickle of Grand Rapids, Mich. She used a 2¼x2¼ Model C Graflex an 8-in. Wollensak f/4.5 lens, and medium-yellow filter. One late summer afternoon Mrs. Knickle noticed a lone swan on the Grand Haven beach. She found a vantage point where the sun silhouetted the lonely model, and made an exposure of 1/25 second at f/11 on Kodak Super-XX film. She darkened the foreground in printing so the final picture would have a moonlight effect.

PAGE 83

Three Aspens, by A. Aubrey Bodine of Baltimore, was taken in Cumberland, Md. The photographer used a 5x7 Eastman View Camera and a red filter. Exposure was 1 minute at f/32 on Kodak Infrared film. Bodine employed an orange element of his 12-in. Goerz Dagor f/6.8 lens when making this striking picture. This converted the focal length of the lens to approximately 19 inches and the speed to about f/12.

PAGE 84

Guardians, by William Spicer of Memphis, was made with a 4x5 Graphic View Camera and an 8-in. Kodak Ektar f/4.5 lens and a Kodak Polaroid diffusion disk. The subjects were lighted with two 300-watt flood. Exposure was 1/5 second at f/11 on Verichrome film. Spicer feels that the success of his picture was assisted by the Polaroid—first, because his models, Diana Graham and Ben Schneider, were encouraged to be married and assumed marvelous and unhabituated expressions, and second, because the diffusion disk helped create a soft, ethereal effect.

PAGE 85

Bar Mitzvah Boy, by Louis Teodler of Detroit, was made with a 2¼x3¼ Kodak Medalist II camera and a 101-mm Kodak Ektar f/3.5 lens. Exposure, on Kodak Super-XX film, was 1/20 second at f/8. A No. 2 flood in a parabolic reflector was directed at the model, Howard Flight. A cardboard reflector provided back lighting. Teodler, an amateur photographer for 16 years, had to give the prayer shawl additional enhancing time to bring out the raised silk lettering. The young model is now studying for Bar Mitzvah, a traditional Jewish ritual that marks a boy's ascendency to religious manhood.

PAGE 86

William L. Klender of Baltimore, Md., used a 4x5 Anniversary Speed Graphic and a 5¼-in. Graflex Optar f/4.7 lens to make his photograph entitled *The Yearling*. Klender, a staff photographer on the *Baltimore Sun*, took the picture as part of an assignment to illustrate an article on Danny Shea's Merryland Farm (where thoroughbreds are trained). Klender noticed the yearlings grazing peacefully on a fog-bound hill and sent a boy behind them with instructions to let out a whoop when the sun broke through the fog-shrouded hill. Anticipating correctly the better, he positioned himself near the horses while the photographer crouched out of sight. When the fog thinned, the boy let out a yell. The frightened horses started to run, and which they came within shooting distance of Klender he stood up and set this ex-Sun photo. Exposure, using the Graflex focal plane shutter, was 1/100 second at f/5 on Kodak Super Panchro-Press Type B film.

PAGE 87

The waters bordering the Baltimore Yacht Club is the site where William L. Klender of Baltimore, pounded his action-packed picture entitled *Water Sports*. He used a 4x5 Anniversary Speed Graphic fitted with a 5¼-in. Optar f/4.7 lens, and a medium-yellow filter. Klender, a staff photographer for the *Baltimore Sun*, was an assignment covering the annual pier-front regatta when he captured these speedsters. He shot into the sun using an exposure combination of 1/200 second at f/8 on Kodak Super Panchro-Press Type B film.

PAGE 88

William Whitaker of Chenango Forks, N. Y., made his appealing picture, *Dairy Chat*, in his home. The barrel-like prop actually is a small wooden locker. The stickers are real—New Hampshire Reds purchased in Binghamton, Whitaker used a 4x5 Speed Graphic equipped with an 5½-in. Kodak Anastigmat f/4.5 lens. One Sylvania Press 40 flashbulb held above the setup provided illumination. Exposure, on Ansco Supertrichromatic film, was 1/100 second at f/22.

PAGE 89

My Whiskers, by Michael J. Bell of Long Beach, Calif., was made with a 4x5 Graflex View Camera, an 8-in. Kodak Ektar f/4.5 lens, and three electronic flash tubes. He used Kodak Super-XX film and a diaphragm setting of f/22. Bell writes, "This stray cat walked into my house one day and in payment for a saucer of milk, I had him pose for this picture."

PAGE 90

Basement Perspective, by Joe Clark of Detroit, was made with a 4x5 Speed Graphic and a 90-mm Optar f/6.8 lens. Using a Sylvania Press 40 for illumination, Clark gave an exposure of 1/25 second at f/16 on Kodak Super Panchro-Press Type B film. The photographer's daughter is the model. Clark says the picture became his first one with a bicycle down the stairway shown in the picture. Therefore, to warn people with the dangers of lofty, small children play near unguarded stairs. In taking this shot the camera was positioned on the floor. A walk-mirror was used to dramatize the height of the stairways.

PAGE 91

Julio Zadik's picture of a Mayan pyramid was made near Zacualpa, Guatemala. He used a 2¼x2¼ Automatic Rolleiflex equipped with a 75mm Zeiss Tessar f/3.5 lens. Zadik is an amateur photographer living in Guatemala City. He was exploring in ruins and composition when meeting in ruins, and composition when he decided to record the site of the capital of the ancient Mayan Empire. Exposure, through a medium-yellow filter, was 1/50 second at f/16 on Kodak Super-XX film.

PAGE 92

Patrick A. Burns, a news photographer with the *New York Times* since 1926, made *Slide, Scooter, Slide!* in New York's Yankee Stadium during the 1949 World Series. The camera used was a "Big Bertha"—a 5x7 Graflex equipped with a 28-in. Zeiss Tessar *f* 5 lens. Exposure, on Kodak Super Panchro-Press Type B film, was 1/100 second at *f* 8. Burns writes, "I was looking into the hood of my Graflex and following a play at first base when Phil Rizzuto of the Yankees suddenly made a dash from second to third. As it is not possible to cover the entire infield of a baseball diamond with a 28-in. telephoto lens, I saw Rizzuto making this shot if my wide-awake caption writer had not shouted 'Third!' While still looking into the hood, I immediately swung the camera in the direction of third base. At the same time I changed focus by using the quick-action hand lever focusing device. On the groundglass I saw Rizzuto making a dive for the bag and snapped the shutter at what proved to be the right moment. Had the shot been taken a fraction of a second later, the ball would have been in the player's glove and Rizzuto and the bag covered with a cloud of dust."

PAGE 93

The Curious One, by Donald P. Richards of Columbia, Mo., was taken with a 4x5 Anniversary Speed Graphic and a 127-mm Kodak Ektar *f* 4.7 lens. Three Sylvania Press 25 flashbulbs lighted the setting—one was placed high and above the camera, another at the camera, and the third was used for backlighting. Exposure, on Kodak Super-XX film, was 1/100 second at *f* 16. Miss Lou Kamper is the inquisitive young lady looking at the camera. Richards, acting director of public relations photography at Stephens College, took this picture for the school's yearbook, the *Stephensophia*. The young ladies who posed were all seniors. Unlike most college girls in their senior year, the ones at Stephens wear the school cap, or beanie.

PAGE 94

A Study in Balance is a beautiful still life made by Albert H. Duvall of Galesburg, Ill. He took the shot in the kitchen of his home using a 4x5 Seneca Model-8 camera fitted with a Wollensak Rapid Convertible *f* 6.3 lens. Lighting equipment consisted of two clampson flood units and two homemade boom lights. All four were fitted with No. 2 floodlamps. Exposure, on Kodak Super-XX film, was 1/25 second at *f* 18. Duvall borrowed a rusty chemistry balance once he conceived the idea for this shot. He used emery cloth to clean it up and then gave it a coat of bronze to add the final touch. The subject matter was further enhanced by printing the negative through a texture screen.

PAGE 95

Karl W. Gullers of Stockholm, Sweden, used a 4x5 Meridian view camera, a 161-mm Kodak Ektar *f* 4.5 lens, and a red filter to produce his well-executed picture, *Arctic Noon*. Exposure, on Sele HP2 film, was 1/50 second at *f* 16, using the mid-day lighting for illumination. Gullers took this shot last January during 72-degree-below-zero weather in the small village of Arjeplog, Sweden.

PAGE 96

Bubble Bath was made by S. W. Flannery of Cincinnati with a 2¼x3¼ Anniversary Speed Graphic and a 135-mm Optar *f* 4.7 lens. He used Two G-E No. 2 flashbulbs for illumination. Flannery is an amateur of three years standing, and one of his favorite subjects is his little daughter, Tania. One evening while his wife was bathing the child, Flannery placed a bubble-bath mixture in the water. As the foam took wing, the photographer clicked the shutter. Exposure, on Kodak Super Panchro-Press Type B film, was 1/400 second at *f* 22.

PAGE 97

First Look was taken by Ben De Rosche of Jackson Heights, N. Y., with a 4x5 Anniversary Speed Graphic and a 5½-in. *f* 5.5 lens. He lighted the setup with three No. 2 floodlamps and used an exposure of 1/3 second at *f* 16 on Kodak Super-XX film. The lights were placed so that the illumination would offer dramatics, the scene. Celest Olsen played the part of the mother while Helen Frost assumed the role of a nurse. A two-day-old baby added authenticity to this story-telling picture.

PAGE 98

Summer Breezes, an airy outdoor scene recorded by John E. Carlsby of Copenhagen, Denmark, owes its sparkle to the flash fill-in employed by the photographer. Carlsby used a 2¼x2¼ Automatic Rolleiflex, a 75-mm Zeiss Tessar *f* 3.5 lens, and a

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greenish-yellow filter to capture his subject, Rizmar Dall, as she waded along the shore. Exposure, on Ilford HP3 film, was 1/100 second at *f* 11.

PAGE 99

Miss Plastic was taken by C. J. Haeck in his Amsterdam, Holland, studio. This refreshing study was made with a 4x6-cm. Ica Ideal camera and a 90-mm Zeiss Tessar *f* 6.3 lens. Three 500-watt spots lighted the setup. Exposure, on Gevaert Panchromosa film, was 1/5 second at *f* 11. Haeck, once a druggist, became proficient in photography without outside assistance. In 1913 he opened a camera shop, and later added a studio to his establishment.

PAGE 100

Raymond Caron of Montreal made *Satin Slippers* with a 3x12-cm Linhof camera and a 150-mm Zeiss Tessar *f* 4.5 lens. Exposure, on Kodak Super-XX film, was 1/5 second at *f* 8 and one-third flood lighted the setup. Caron obtained a soft negative by introducing a piece of fine silk between the subject matter and his film. To further accentuate the subtle effect created on film, he printed this interesting photograph through a texture screen.

PAGE 101

Jules and Barbara Pinsley of New York used a multiple-exposure technique to produce the striking color shot, *Backstroke*. The camera was an 8x10 Grover view equipped with a 14-in. Kodak Ektar *f* 6.3 lens. The single sheet of film used was Kodachrome Professional Type B. Donna Vischer modeled for all three exposures. The two images on the right were photographed one after the other. In each of these two shots, which were calculated to fall just under correct exposures, Miss Vischer was standing in front of a jet-black background. Before each exposure was made the position of the model was traced on the camera's groundglass. The figure on the left resulted when Miss Vischer was posed in front of a greenish background. This background was carefully illuminated with two 1,000-watt spots and three 1,000-watt floods so that it was darker in the area where the first two shots were made. This third exposure was taken at 1 second with an *f* 8 lens opening.

PAGE 102

Frank V. Boran of Los Angeles used a 5x7 Anson View camera, a 10-in. Zeiss Tessar *f* 4.5 lens, and a CC-95 filter to produce *Insect and Invader*. With the aid of the No. 22 flashbulb, he made an open-flash exposure at *f* 22 on Kodak Ektachrome Type B film. Boran writes, "I was taking some standard black-and-white shots of these two Chihuahuas with an obvious lack of success due to their abundance of energy. So I decided to use a flash exposure to stop action and Ektachrome film to catch the coloring and amazing expressions of these little dogs. For one moment they held the alert pose seen in the illustration. Then the sudden flash so startled these sensitive animals that they were unapproachable for the rest of the afternoon." Boran is assistant to the well-known magazine photographer L. Willinger.

Waiting for Happy, by Francis L. Horton of Chicago, is the result of a week's careful planning. For this story-telling color shot, Horton used a Kodak Bantam 828 camera equipped with a 105-mm Kodak Anastar *f* 4.5 lens and loaded with Kodachrome Type A film. The model is Richard Olson, who was thrilled to pose for this clever shot which was recorded in two stages. First Horton covered the lighted television screen with a sheet of blue cellophane and with all room lights out, gave a 3-second exposure at *f* 6.3. This shot was taken at a time when the subjects on the screen were relatively still. After this first exposure, Horton set up his lights—three No. 2 floodlamps in reflectors. The first was positioned to the left of the TV set and covered with blue cellophane. This light produced a blue cast on his subject's blond hair and short whiskers. The second light was placed two feet behind the set for backlighting, and the third was set up inside the camera for front lighting. The latter two lamps were not covered with blue cellophane. Before making the second exposure of the setup, the photographer placed a piece of black cardboard over the television screen so as not to interfere with the initial exposure. The second exposure on the same sheet of film was 3 second at *f* 6.3.

PAGE 103

Submerged Nude is the work of John McCormick of Los Angeles. To expose his Kodak Ektachrome Type B film, the photographer used a 4x5 Anniversary Speed Graphic, a 275-mm Kodak Ektar *f* 7.7 lens, and two 1,000-watt spots. Mikelle Hildebrand is the model. Exposure was 1 second at *f* 16. McCormick points out that he made this picture along with several others as a self-imposed assignment to learn about color solarization. After one-third of the development time elapsed, the film was exposed to a pre-determined amount of colored light. When this part of his solarization technique had been completed, McCormick resumed the developing process.

Orange Float was made while the photographer, Joseph Costa of New York City, was shooting some gag pictures as part of a story assignment on Florida oranges. The camera used to record the four young ladies posing in an orange-filled tank was a 4x5 Pacemaker Speed Graphic equipped with a 152-mm Kodak Ektar *f* 4.5 lens. Exposure, on Kodachrome Professional Daylight film, was 1/25 second at *f* 9. The water in the tank was about two feet deep, and the two models who appear to be floating were supported by wooden horses. At a given signal, they submerged their heads for a moment while Costa tripped his shutter.

PAGE 104

Raymond La Marca of Los Angeles took *The Master* as an assignment while attending a photographic school on the West Coast. "The idea," writes the cameraman, "was to produce a portrait that could be used to illustrate a story for a national magazine." Several spots and floods, a 5x7 Anson Universal View camera, and a 207-mm Kodak Ektar *f* 7.7 lens were employed by La Marca. Exposure was 1 second at *f* 8 on Kodak Ektachrome Type B film. Robert Hawley is the model. La Marca is now working as assistant to Will Connell, well-known Hollywood photographer.

PAGE 105

The Ballerina was photographed by Maria Luisa Padilla of Santurce, Puerto Rico. Miss Padilla wanted to take a picture of a dancer such as the French Impressionist Degas would have, had he been a photographer instead of a painter. When Peggy Walker, a young ballet dancer who also is an admirer of Degas, visited Puerto Rico she consented to pose for Miss Padilla. The camera used was a 4x5 Speed Graphic equipped with a 127-mm Kodak Ektar *f* 4.7 lens. Using four No. 2 floods for illumination, the photographer gave an exposure of 1/50 second at *f* 11 on Ansco Supergan Press film. The final print was enhanced by the Martensen abrasion-tone technique.

PAGE 106

At Seadown, by Jack Clemmer of West Richfield, Ohio, was made in Ohio's Holmes County. The buggy seen in the picture is an Amish vehicle. Clemmer mentions that the Amish do not permit having their pictures taken, so he had to be content with a shot of the buggy from the rear. Clemmer, a former Signal Corps combat photographer, used a 4x5 Speed Graphic equipped with a 135-mm Zeiss Tessar *f* 4.5 lens. Exposure, through a medium-yellow filter, was 1/100 second at *f* 8 on Ansco Supergan Press film.

PAGE 107

Curious Colts was made by C. A. Snyder of Charlotte, Mich. He used a 21/2x3½ Automatic Rollaflex and a 75-mm Schneider-Xenar *f* 3.5 lens on Kodak Super-XX film. Exposure, through a deep-yellow filter, was 1/100 second at *f* 11. This picture, according to Snyder, was one of those lucky "grab shots." He spotted the two beautiful palomino colts while motoring along a Michigan country road. As the car came to a stop the animals assumed this pose and held it just long enough for Snyder to get one quick shot.

PAGE 108

Eyes in the Night, by Homer Heavner, was made in the photographer's Canton, Ohio, home. He used a 4x5 Brand 17 camera equipped with a 7½-in. B&L Tessar *f* 6.3 lens. The subject, Donald Brown, was lighted with a 500-watt spot and a No. 2 Bandamp. Exposure, on Kodak Super Panchromatic-Press Type B film, was 1/10 second at *f* 8. This shot was double printed with another negative containing a hand drawing of many peeping eyes. The final print was all Heavner hoped it would be. Little Donald Brown was presented with a dollar bill and the chicken he was supposed to be stealing for modeling.

PAGE 109

Ecstasy, by David A. Murray of East Orange, N. J., was made during "Model Orange, N. J., was made during "Model

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Night" at a Newark camera club, Murray used a 2¼x2¼ Anniversary Speed Graflex fitted with a 4½-in. Zeiss Tessar *f* 3.5 lens. The subject, known as Happy, was brought to the club meeting by one of the members. When Murray saw him he conceived the flower-in-hand idea. A quick trip to the florist shop was made and Happy was posed with a daffodil. The photographer took four shots, the best of which he submitted to the contest. Exposure for this picture was 1/5 second at *f* 11 on Kodak Super-XX film. Two floods and a spot lighted the setup.

PAGE 110

Storm and the Lotus was produced by Julian Kahn of Beverly Hills, Calif. One rainy winter day, Kahn took his 35-mm Leica out on a picture-taking expedition. He wanted to get shots of people scurrying through the rain. He came upon some men frantically working in the downpour and stopped to capture them on film. Kahn set his 58-mm Summar *f* 2 lens at *f* 8 and shot at 1/50 second. His camera was loaded with Ansco Finopan film. Since the sky was extremely dull, he decided to make a lower negative using a cut of another negative for the clouds. He masked out unwanted portions of the shot and dodged in the lower part of the print to add to the gloomy atmosphere.

PAGE 111

Asad R. Syed of Palampur, India, used a 2¼x2¼ Rolleiord II camera fitted with a 75-mm Zeiss Tessar *f* 3.5 lens to record *The Problem*. While touring through the Indian city of Ahmedabad, Syed came upon this scene which was taking place on the sidewalk in front of him. He immediately took a shot of the pathetic group without the knowledge of the subjects. Exposure, through a lightyellow filter, was 1/50 second at *f* 8 on Kodak Super-XX film. The photographer took a camera location which permitted the sun to backlight the scene.

PAGE 112

On The Rolling was made in Hollywood, Calif., by Gomez Bow of Los Angeles. The photographer used a 4x5 Super D Graflex camera, a 190-mm Kodak Ektar *f* 4.5 lens, and a medium-yellow filter. Exposure, on Ansco Isopan film, was 1/50 second at *f* 11. To darken the sky, Bow flashed additional light on the upper part of the print during enlarging. Rolf Norman is the model.

PAGE 113

Louis Meier of Luxembourg took his picture *Paris* with a 6x6-cm Voigtlander Superb camera and a 75-mm Skopar *f* 3.5 lens. Exposure was 1/50 second at *f* 8 on Gevaert Microgram film. The gray, ethereal effect that Meier captured was the result of sunshine backlighting dust particles in the city air.

PAGE 114

Leo Gardner of Detroit entered the aid of Elaine Morrison when he got the idea for his notable picture, *Fear Forward*. Gardner, an amateur for over 25 years, used a 4x5 Busch Pressmatic camera equipped with a 135-mm Bausch & Lomb Tessar U.S.K. No. 0 Kodaflex behind the subject—one at the camera and one an extension ten feet to the left of the model. Exposure, on Kodak Super Panchromatic Type B film, was 1/200 second at *f* 22.

PAGE 115

No Use Fighting It is a humorous picture made by Frank Kristalek in the kitchen of his Torrance, Calif., home. The photographer wanted to get a record shot of his son, Billy, on the major of his daily bath. He writes: "Billy always takes it (this washing business) as philosophically as the picture reveals." The photographer used a 4x5 Graflex camera salvaged from his neighbor during housecleaning. It had to be fitted with brass stops for lens openings. Also all focal plane shutters had to be open-flash because the Ilex Paragon lens *f* 5.5 lens has no shutter. Kristalek's lighting was provided by two G.E. No. 11 floodlights. His lens opening was set at *f* 32. The film used was Kodak Super Panchromatic Type B. The photographer is unmarried and became interested in picture taking through his association with photomicrographic work.

PAGE 116

Hope, set was made by Jean Elwell in her Detroit studio. She used a 4x5 Speed Graflex equipped with a 5¼-in. Kodak Ektar *f* 4.5 lens. The photographer dressed her subject with a sidewall spot, a No. 4 floodlamp, and a No. 2 flood. Exposure, on Kodak Super Panchromatic Type B film, was 1/5 second at *f* 16. Miss Elwell always attempts to capture a mood in her figure studies. She achieved a dream-like effect in this picture by covering her model with a silver, gauze-like material and by blowing cigarette smoke behind the subject to separate the figure from the background.

PAGE 117

Feline, by J. H. Poelker of Richmond Hill, N. Y., was taken with a 2¼x2¼ Automatic Rolleiflex and a 75-mm Zeiss Tessar *f* 3.5 lens. A bank of shielded floods on the ceiling provided the illumination. Exposure, on Kodak Super-XX film, was 1/5 second at *f* 11. The subject is Elyse Carlson, a model whose expressive eyes attracted the photographer and gave him the inspiration for this picture. Poelker, a professional who likes to make photographs with enough impact to startle the viewer, says "In this picture I am trying to demonstrate that women are honorary members of the cat family."

PAGE 118

Sarah Martin of Rockwood, Mich., photographed *Quincy Blue* with a 2¼x2¼ Rolleiflex camera, a 75-mm Zeiss Tessar *f* 3.5 lens, and a deep-yellow filter. The building is the Quincy Mine shafthouse in Hancock, Mich. Mrs. Martin, a professional who specializes in child photography, liked the pleasing and unusual pattern of the structure and recorded it for salon exhibitions. Exposure, on Kodak Super-XX film, was 1/50 second at *f* 22.

PAGE 119

Adventurers was made in New York on a Sunday afternoon by Dr. Arthur M. Tunick of Englewood, N. J. The tiny models are the photographer's children. The camera used was a 4x5 Crown Graflex equipped with a 127-mm Kodak Ektar *f* 4.7 lens. Exposure, through a medium-yellow filter, was 1/5 second at *f* 22 on Ansco Superpan Press film. Dr. Tunick became interested in photography in 1942 while in the army and stationed in Washington, D. C. There he met several members of a camera club who fanned his interest in camera work to a fever pitch. Tunick writes: "As a practicing physician, I find that I haven't as much time to pursue my hobby as I would like. Nevertheless, the interest remains and at every possible opportunity my children accompany me in search of picture material."

PAGE 120

Wellington Lee of New York used a 2¼ x 2¼ Rolleicord II camera and a 75-mm Zeiss Tessar *f* 3.5 lens to make his interesting picture, *Balloon Around*. Lee hired three boys to shake around the circle while he took his shot. Because the picture was taken on a dull day, the negative didn't have the sparkle the photographer wanted, so he made a 16x20 print and snipped up the highlights by etching them with a razor blade. The whole picture then was treated with an oil color to correct tonal values. Finally, Lee made a copy negative on commercial film. From this copy negative he got the final picture. The initial exposure for this shot was 1/200 second at *f* 4.5 on Kodak Super-XX film.

PAGE 121

Journey's End was made in Detroit by Lionel J. Tulodzie of Windsor, Ontario. The

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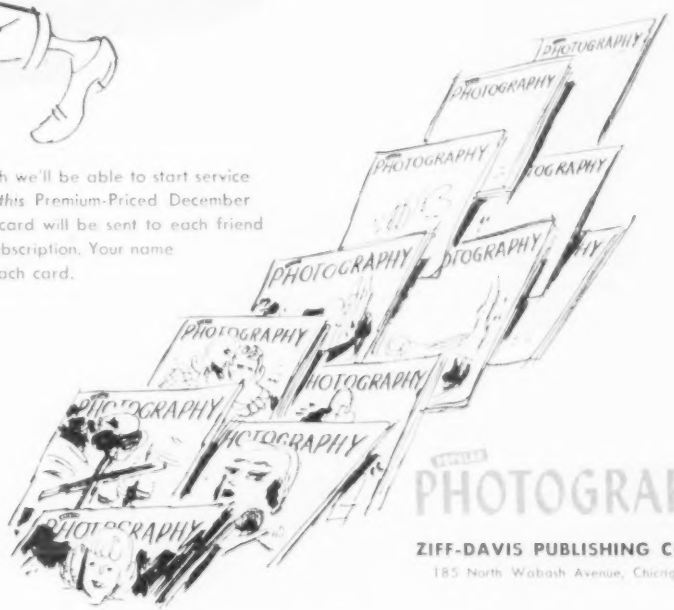

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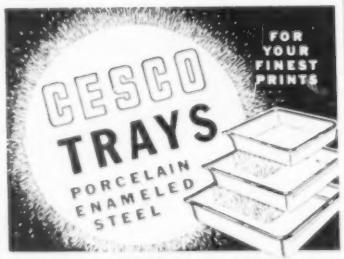

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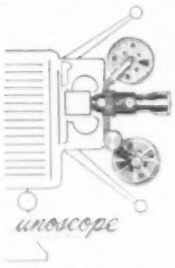

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photographic equipment used consisted of a 4x5 Model D Busch Pressman camera and a 127-mm Kodak Ektar f/4.7 lens. Exposure for this mid-morning shot was 1/200 second at f/11 on Kodak Super Panchro-Press Type B film. Tobridge, an amateur cameraman, took this pattern study from a bridge on a freezing winter day. The radial design he photographed was the element that attracted him to the scene. To hold detail in the smoke, Tobridge under-developed his film.

PAGE 122

Perspective, by E. E. Sigler of Rock Island, Ill., is a product of the photomontage technique. The tiny figure, a wooden statue, was photographed first. Sigler used a 4x5 Anniversary Speed Graphic equipped with a 127-mm Kodak Ektar f/4.7 lens. He lighted the figurine with two diffused floods and gave an exposure of ½ second at f/16 on Agfa Isopan film. The negative, after being processed, was extensively retouched to eliminate all grain. Then a photo montage was made on an 11x14 glossy. The masks were adjusted a little to give a white border on two sides and black on the others to balance the picture. A line was ruled along one diagonal. This montage was copied to produce the final photograph.

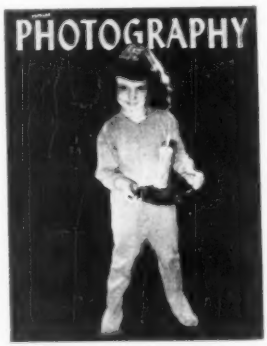
PAGE 123

Corridor's End, by Harold H. Hoagland of Scio, Ore., was taken at the Lompoc Mission in Lompoc, Calif. He used a 4x5 Pacemaker Graphic equipped with a 135-mm Optar f/4.7 lens. Exposure on Kodak Super-XX film was 1/25 second at f/32. Hoagland, a former Air Forces aerial photographer, took this picture while attending a West Coast photographic school. The idea was to create an artistic study in perspective.

PAGE 124

Charles O. Hinninger of New York used darkroom trickery to produce his excellent picture, *Base of Liberty*. The shot of the Statue of Liberty was taken with a 4x5 Super D Graflex, a 7½-in. Kodak Anastigmat f/4.5 lens, and a medium-yellow filter. Exposure was 1/25 second at f/22 on Kodak Super-XX film. Hinninger, a darkroom technician by profession, put his knowledge to work in order to create something more than a documentary shot of this symbol of freedom. He used a reducer to clear the image of the base of the statue. A copy of the Declaration of Independence was then photographed at the same angle as that used to record the statue and the resultant negative was taped onto the initial negative so that it superimposed over the reduced area.

THE DECEMBER COVER



This month's appealing cover was reproduced from a color transparency made by L. Willinger of Los Angeles. Entitled "Good Night, Everybody," the shot won a prize in the 1950 POPULAR PHOTOGRAPHY Picture Contest.

Willinger used a 5x7 Ansco view camera, 18-in. Zeiss Tessar f/4.5 lens, and a Wratten 2A filter. Lighting the setup were six G-E No. 22 flashbulbs. Exposure, on Kodak Ektachrome Type B film, was open-flash at f/26. Little Kerry Donnelly modeled for this striking photograph.

A Simple Lens Chart

By CARL P. NACHOD

IF YOU aren't the type who enjoys working with mathematical formulas, and if you want precise, accurate exposure and focusing data in a hurry, the simple but effective chart shown on this page will be a welcome addition to your photographic equipment.

By means of this chart it is possible to calculate six different properties of camera lenses merely by drawing a straight line across the three graduated scales. Two of the values must be known; they form two of the intersections, and the third intersection supplies the answer to the problem you are seeking. To add to its versatility, the chart may be calibrated in any unit you choose—centimeters, feet, or inches, providing that all lines are of the same units, and the figures on all scales may be multiplied or divided by any common integer.

The six methods of using the chart are as follows:

(1) Any straight line across the chart passing through the focal length of the lens, on the middle scale, and through the distance from lens to object, on the right scale, will indicate the distance from lens to film (or the camera extension) on the left scale. As an example, focus a lens of 15 cm focal length on an object 60 cm away. What is the camera extension? Draw the dotted line thru 60 on the right scale and thru 15 on the middle. This line cuts the left scale at 20 cm, the required camera extension. By drawing various lines pivoting through 15 on the middle scale, a focusing scale for this lens may be made. Distances may be measured from the lens stop.

(2) If the focal lengths of two different lenses are placed each on an outer scale, and a line drawn between them, it will cut the middle scale at the combination focus of the two lenses when used together in contact. Thus the same dotted line shows that, if a 20-inch and a 60-inch lens are used together, the resultant focal length is 15 inches. This is useful for the so-called "portrait" lenses when slipped over the main lens.

The remaining four properties which can be calculated by the chart have to do with sharpness of focus. Nos. 3, 5 and 6 make use of the hyperfocal distance. No. 4 does not, and is probably the most immediately useful.

(3) When a stopped lens having a hyperfocal distance of 60 feet (right scale) is focused on an object 15 feet away (middle scale), then the furthest distance that objects will be equally sharp for the same stop is 20 feet (left scale), as shown by the dotted line.

(4) Place 15 feet, *half* the sharply focused distance, (30 feet) on the middle scale. If 60 feet on the right scale is the furthest distance for permissible sharpness, then 20 feet on the left scale is the nearest distance for the same sharpness with the same stop, as shown by the dotted line. The depth of focus is thus 60 minus 20, or 40 feet; or it is 30 feet behind and 10 feet ahead of the object upon which the lens is sharply focused.

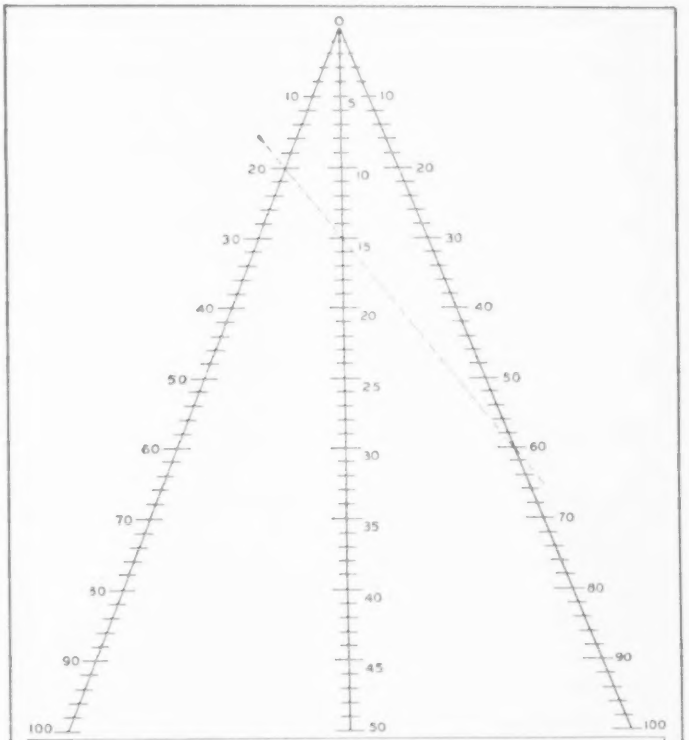
(5) If 20 feet (left scale) and 15 feet (middle scale) are the furthest and nearest distances for the permissible sharpness with the same stop, then *half* the hyperfocal distance is 60 feet (right scale) as shown by dotted line; or the hyperfocal distance is 120 feet.

(6) If the camera is sharply focused on an object 20 feet away (left scale), and the hyperfocal distance is 60 feet (right scale) for permissible sharpness with a certain stop, then the near distance for the same sharpness and stop is 15 feet (middle scale), as shown by the line.

The factors controlling the hyperfocal distance are the lens focal length, the stop number, and diameter of the circle of confusion, which defines the sharpness. However, these are beyond the scope of this article.

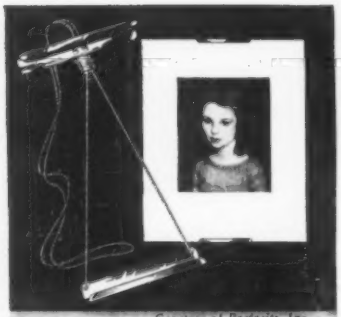
It is a simple matter to construct this chart for your own use, if you should want to extend its scope or have it in a more convenient form. The two sides are at equal angles to the perpendicular, and may be graduated with any ruler. The middle scale may be calibrated by drawing a line through any two equal numbers on the side scales; the point at which this line intersects the middle scale has half the value of either side scale. The perpendicular is then graduated along its length in the same manner.

To avoid marking up the chart when calculating values, it is well to use a piece of clear celluloid with a black line etched on it. This serves as the intersecting line, and keeps the chart clean for future use.



LENS-TO-FILM DISTANCE	FOCAL LENGTH	LENS-TO-OBJECT DISTANCE
FOCAL LENGTH LENS NO 1	COMBINED FOCAL LENGTH	FOCAL LENGTH LENS NO 2
FAR LIMIT OF SHARPNESS	LENS-TO-OBJECT DISTANCE	HYPERFOCAL DISTANCE
NEAR LIMIT OF SHARPNESS	½ SHARPLY FOCUSED DISTANCE	FAR LIMIT OF SHARPNESS
FAR LIMIT OF SHARPNESS	NEAR LIMIT OF SHARPNESS	½ HYPERFOCAL DISTANCE
LENS-TO-OBJECT DISTANCE	NEAR LIMIT OF SHARPNESS	HYPERFOCAL DISTANCE

Lens calculations are easy if you use this chart. To determine the bellows extension needed to focus a 15-cm lens on an object 60 cm from it, draw a line through 60 on the right scale and 15 on the center one. The point at which it intersects the left scale indicates that 20 cm is the required lens-to-film distance, as shown by the broken line.



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CONTESTS *and* MARKETS

CONTESTS

GRAFLEX, INC., announces the 1950 Graflex Photo Contest, open to amateur and professional photographers. The contest closes Dec. 1, and all photographs made since December 1, 1949, with any Graflex, Graphic, Crown or Century camera are eligible. There is no limitation on subject matter, and 62 cash prizes totalling $5,000 will be awarded to winners in three black-and-white classes and the color division. In addition to the regular awards, two special awards also will be presented. One contestant will have the opportunity to spend a week in New York City, as the guest of Graflex, Inc., working with leading press photographers; another entrant will be given a $200 Special Press Award. The photograph selected for this last prize must have been published in a magazine, newspaper or house organ, and a tear sheet attesting this fact must accompany any photograph to be considered. All negatives remain the property of the photographer. The rules limit the number of entries in the black-and-white classes to ten, and in the color division to five. For complete contest rules, and for entry blanks, visit your Graflex dealer, or write Graflex, Inc., Rochester 3, N. Y.

POPULAR PHOTOGRAPHY Magazine announces the 1950 Christmas Card Contest, open to all photographers. The editors will award ten prizes of $25 each. Contestants may enter any type of photographic Christmas card, and entries must be in the hands of the editors by midnight, Jan. 16. Winners will be announced in the April issue of POPULAR PHOTOGRAPHY. For examples of cards submitted in the 1949 contest, see page 44 of this issue. Mail all entries to POPULAR PHOTOGRAPHY, Christmas Card Editor, 285 N. Wabash Ave., Chicago 1, Ill.

NATIONAL FIRE PROTECTION ASSOCIATION, a fire-control group, in conjunction with the National Press Photographers Association, is sponsoring the 1950 Annual Fire Photo of the Year Contest. Prize money totaling $375 will be awarded to winners. The contest is open to all press photographers in the United States and Canada, and entries are restricted to those pictures made during the calendar year ending Dec. 31, 1949. Deadline for the contest is Jan. 31, 1950. For complete information, and to submit entries, write Melvin B. Freeman, Public Relations Manager, National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

WESTINGHOUSE ELECTRIC CORP. announces a Photoflash contest open to any person who derives less than half his income from the sale of his photographs. Contest closes Jan. 15, 1951, and entries are limited to black-and-white photographs made between Oct. 15 and Jan. 15. Pictures must be no smaller than 3¼x4¼, or larger than 8x10. Only gloss prints are allowed, and tinted prints are not eligible. Entries must be accompanied by the top of a package of Westinghouse Photoflash Bulbs. Up to four prints may be entered, with each package top. Prints must bear the name and address of the contestant. Negatives of prize-winning pictures must be supplied on request. Only entries from continental United States and Hawaii will be considered. For further information, and to secure entry blanks, write Westinghouse Photoflash Contest, Box 230, New York 46, N. Y.

SYLVANIA ELECTRIC PRODUCTS has announced the opening of four contests for press photographers. The fourth contest opened Oct. 1, and will close Dec. 31. All pictures must have been taken by working press photographers, and must have been taken during the effective dates for the particular contests. Each contest closes at midnight of the day preceding the new contest. First prize for each contest will be a bench television set. Any number of prints may be submitted. Include complete technical data with each print. All pictures should be addressed to News Photo Manager, Sylvania Electric Products, Inc., 500 5th Avenue, New York, N. Y.

MARKETS

AMERICAN MAGAZINE, a monthly publication, is offering $50 for any photograph which can be used as a basis for painting a cover. Pictures submitted should depict familiar or interesting facets of American family life, or amusing family situations. The first of the new covers appeared on the magazine's September issue, and subsequent covers will follow this general pattern. Address all inquiries and photographs to *The American Magazine*, 640 Fifth Ave., New York 19, N. Y.

SOCIETY FOR VISUAL EDUCATION, INC., welcomes the opportunity to view 2x2 color slides made by photographers who recently have traveled *outside* of continental North and South America. It will consider these transparencies for purchase and possible inclusion in the S.V.E. Library. For further information write to Society for Visual Education, Inc., 1345 W. Diversey Pkwy., Chicago 14, Ill.

LEICA PHOTOGRAPHY is seeking photographs and articles suitable for publication in the magazine. Articles must have a definite Leica slant. Photographs should be submitted as 8x10 black-and-white prints, and as transparencies if in color. Only pictures taken with a Leica camera will be considered. Full technical data should be submitted with each photograph, and standard model releases must be supplied for any individuals who are identifiable in photographs. Negatives and transparencies become the property of E. Leitz, Inc., upon acceptance. For further information, and for schedule of payments, write Stanley C. Sarnoff, editor, *Leica Photography*, 204 Hudson St., New York 13, N. Y.

BARDAHL OIL CO. is interested in purchasing black-and-white photographs of auto racing cars sponsored by the company. Pictures of big cars, midget racers, and stock racers, carrying the name of the sponsor, are desired. Photographs may show either racing action, pit action, or closeups. Prints of unusual Bardahl displays set up at service stations, or Bardahl Oil in actual use, are also being sought. All pictures submitted should be glossy, unmounted 8x10 prints. The company will pay $5 for all pictures, and will offer bonuses for spectacular shots. Model releases should be available where necessary. Address inquiries and material to Bardahl Oil Co., Photo Division, 5708 Natural Bridge St., Louis 29, Missouri.

SEVENTEEN magazine will pay $5 for each accepted photograph showing grocery food displays with a *Seventeen* teen-age affiliation. Such subjects can be found most easily in IGA grocery stores at the present time, as this group is now cooperating with the publication in food promotions. Negatives must be available on request. For more complete information, and to submit photographs, address Howard L. Berkson, Seventeen Magazine, 488 Madison Ave., New York 22, N. Y.

COLORPICTURE PUBLISHERS, INC., wishes to purchase natural color transparencies of plants, ships, seashore scenes, domestic and wild animals, flowers, orchids, Indians, and other subjects of general interest to the public. Transparencies are preferred in 4x5 size, but suitable subjects from 2¼x2¼ and up will be accepted. Payment will be on acceptance, and will be determined by quality and subject matter. Submit all transparencies to the attention of M. J. Anderies, Colorpicture Publishers, Inc., 290 Newbury St., Boston 15, Mass.

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New BOOKS

PHOTOGRAPHY Annual, 1951 Edition, compiled by the editors of POPULAR PHOTOGRAPHY. Published by the Ziff-Davis Publishing Company, Chicago. Paper bound, 8½x11¼, profusely illustrated, 266 pages, $1.

Here's the first appearance of a picture annual that each year will gather and reproduce the finest photographs. This book is different in that its hundreds of outstanding black-and-white and color shots are presented as a series of categories which embrace the main picture-taking techniques. Each technique makes up a section of the book. An editorial page, containing about 300 words on the specific subject, introduces each section and is followed by a selection of photographs that illustrate the points made. By using this presentation method the editors are endeavoring to help the novice gain a better understanding of the reasons for using, say, a large or small aperture, a fast or slow shutter, or a particular kind of filter. The plan of the book is such that technical topics embraced will not obtrude on the attention of the reader interested primarily in fine photographs. For this reason technical and other notes have been placed in the back of the book. Thus in preparing this first edition the editors have produced a book that is unique for its type—a brilliant record of photographic achievement, and an invaluable aid to all serious students of the camera.

KODAK COLOR HANDBOOK. Published by the Eastman Kodak Company and available through Kodak dealers. Leather cover, metal-ring bound, 9x7, profusely illustrated, 248 pages, $4.

This new publication, created to provide a handy reference guide for advanced amateur and professional photographers, combines four new color data book sections. These provide information on "Color As Seen And Photographed," "Color Photography Outdoors," "Color Photography In The Studio," and "Kodak Color Films." In announcing this book, with its 100 full-color illustrations, Kodak emphasizes that this represents only a beginning of information the company eventually hopes to make available for use by color photographers. Other color data books to supplement the four in the handbook are planned.

POCKET WISDOM OF PHOTOGRAPHY by Walter Nurnberg, FIBP, FRPS. Published by Press Centre, Ltd., London, and distributed in this country by Rayelle Foreign Trade Service, Philadelphia. Paper bound, 4x6½, illustrated, 104 pages, $1.25.

In writing this book, the author has followed the requests of friends who have asked him to put on record some of his photographic lectures and ideas. The subjects treated here were dictated by Nurnberg's desire to discuss some of those principles which stand behind the technicalities of good picture making. The following are the book's chapters: Art, Craft, and Hobby; On Cameras; The Hands; High Key vs. Low Key; An Approach to Portraiture; Approach to Landscape; About Texture and Textiles; Photographing Children; Concerning Exhibitions; and To Be a Photographer.

MINIATURE CAMERA GUIDE, written and compiled by William Alexander and revised by R. M. Fanstone, ARPS. Published by The Fountain Press, Transatlantic Arts, Inc., New York City. Cloth bound, 3¾x7, 100 pages, $1.50.

This is the fourth edition of this handy reference and record pocket book on miniature cameras. It brings up to date the progress that has been made in the realm of miniature photography. Part One of the book is made up of three chapters: I. Guide to Miniature Cameras for Thirty-Six Exposures; II. Useful Accessories for Miniature Cameras; III. Lenses for Leica and Contax Cameras. Part Two is devoted to exposure record pages. Part Three covers tabulated information.

NEW PHOTO VISION by Helmut Gernsheim, ARPS. Published by The Fountain Press, Transatlantic Arts, Inc., New York City. Cloth bound, 7¼x10, illustrated, 64 pages, $3.25.

Here's a book that shows photographers how to employ artistic techniques or effects which are closely akin to the art of painting in producing their pictures. Although the ideas put forth are not revolutionary, they are being used by the author to try to teach something different from what has hitherto been the mode. Gernsheim has written this volume in the hope that it will help revitalize photography for many and train them to look for new values and ideals in their hobby.

ARTIFICIAL LIGHTING by H. R. Alder. Published by The Fountain Press, London. Paper bound, 5x7¼, illustrated, 48 pages, $0.40.

This is the seventeenth volume in the *Photofacts* handbook series. The following are the chapter headings: Bottled Sunshine, Lamps for Photography, Reflectors, Intensity and Exposure, Principles of Lighting, and Home-made Equipment. A film-speed table also is found in the back of the book.

FLASH PHOTOGRAPHY by Rodier Heath. Published by The Fountain Press, London. Paper bound, 5x7¼, profusely illustrated, 96 pages, $0.40.

Written in easy-to-understand language this volume does a thorough job of discussing the flashbulb and its use. Other chapters cover exposure, multiple flash, and synchro-sunlight. Also found in this volume is an appendix featuring flash numbers and exposure tables.

COLOURING, TINTING AND TONING PHOTOGRAPHS by Charles W. Walley. Published by The Fountain Press, London. Cloth bound, 5x7½, illustrated, 128 pages, $1.75.

This book explains various methods by which colored photographs can be made from ordinary black-and-white prints. The first part of the volume gives detailed instruction on coloring photographs by hand and deals with the application of water color, oil color, crayon, etc. It also describes the processes of dye tint-

ing and staining. The second part of the book deals with interesting methods of obtaining colored effects by chemical means. It includes chapters on selective tinting and dye toning.

AFTER-WORK ON NEGATIVE AND PRINT by R. M. Fanstone, ARPS. Published by The Fountain Press, Transatlantic Arts, Inc., New York City. Cloth bound, 5x7½, illustrated, 82 pages, $1.80.

In this volume the author deals with the processes of intensification and reduction. With knowledge of these methods the worker can correct the contrast and density of a negative or print as a whole, or he can make use of locally applied treatments that may be needed to emphasize or suppress some particular detail in a landscape or portrait. The final chapter in the book deals with making copy negatives in order to incorporate the handwork, once and for all, into an image from which can be made as many duplicate prints as may be desired.

PHOTOGRAPHIC OPTICS by Allen R. Greenleaf, ARPS and member of the Optical Society of America. Published by The MacMillan Company, New York City. Cloth bound, 6¼x9¼, illustrated, 214 pages, $4.75.

Facts about lenses are presented in this volume. The author discusses, in simple terms and with a minimum of mathematics, the principle of geometrical optics, describing the various aberrations, their effects, and the methods by which they are minimized in photographic lenses. The different types of photographic lenses now used are described. Their deficiencies as well as their merits are pointed out. Numerous drawings and specifications of both old and new lenses show the trends in design. Methods of testing lenses are presented. With this information the prospective purchaser has much valuable assistance in obtaining satisfactory equipment. Related information on optical accessories is found in the last part of the book. In the final chapters the author discusses the principles of perspective from the photographer's point of view, the application of projection printing to the production of a rectified picture, and the principles and applications of stereoscopy.

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For every popular 8mm Movie Camera. Brand new • Guaranteed • require no compensation or increase in exposure. Each $8.95
Sam's Special Wide Angle and Telephoto Combination, both for $16.95
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25	5 x 7	2.00
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12	16 x 20	8 x 10	2.50
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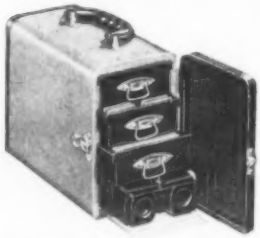

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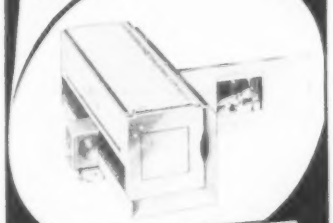

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MAKERS OF FINE PHOTOGRAPHIC EQUIPMENT

Sell Your Pictures To Trade Papers

(*Continued from page* 133)

his interest to the place where he is very helpful with whys and wherefores, and ends up by requesting a look at your finished prints with the idea of possibly buying a set. You thus may put a little more cash in your pocket. When you get going good at this game, you might even push this end for all it's worth: I've made as much, in some cases, by selling my pictures to businessmen as to the trade magazines. Good deal!

But your biggest hurdle right off the bat is getting to know who wants pictures. Right? Here's the dope the way I learned it, identical with the way others pick up the information quite regularly: go to your newsstand and buy the current issue of *Writer's Digest*. Scattered all through this journal are terse paragraphs that go like this:

"We are in need of material for all our publications and will be glad to give prompt and cordial consideration to every script (and photo) sent us. . . *Wallpaper Magazine*, *Juvenile Merchandising*, and *Oriental Rug Magazine*. Photos of store interiors, window displays, persons interviewed. . . Rates: one cent per word, $2.50 per photo. On acceptance. . . ." Address and other pertinent information are included in this blurb. (I've sold to *Wallpaper Magazine* and *Oriental Rug Magazine*.) Or:

". . . *National Bottlers' Gazette* currently is reorganizing its entire field force, and we will work only with accredited representatives (which you can be, if you get on the ball!) . . . We recently have raised our rates to $10 per page, plus $3 to $5 for photos and art. Higher rates are paid for quality material and special assignments." Or:

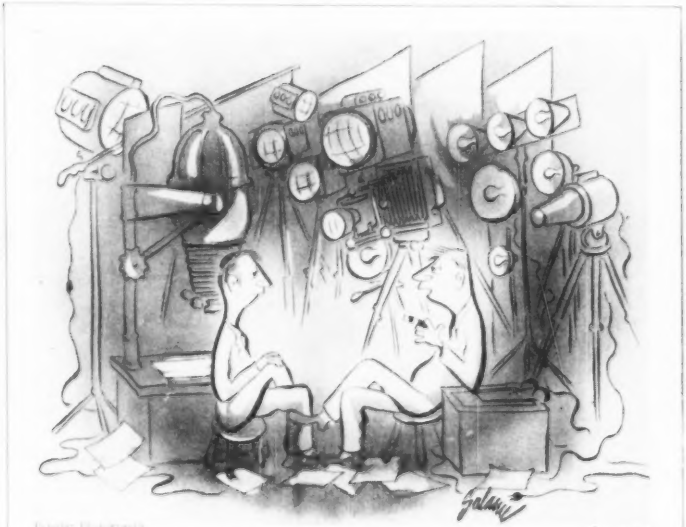
"*The Milk Salesman* has been published for some 28 years and is sold to retail milk dealers over the country for them to give to their driver salesmen. . . We pay $5 for articles and also the same for photographs which might be of interest on our Here and There Page. . ."

I could go on and on, *ad infinitum*. *Writer's Digest* also publishes a year book that usually carries a section called "100 Photo Markets," which covers submissions to quality magazines, too, with best-paying trade journals given a look-in. And, besides this *Writer's Year Book*, they have still another publication which is called *The Writer's Market* which is annually revised and published to list *every* market of any description that you can sell photos to. Trade papers, for instance, gobs and gobs of them, are listed in the back of this book, with all the information you could want on their requirements and rates.

Being a sort of fanatic on trade publications, I've even taken another step to be sure I know of every publication in the trades. Following the advice of an editor or two, I looked up the annual *Market Data Book Number* of *Industrial Marketing*. The latter is a monthly that goes to people interested in—you guessed it—industrial marketing. This annual book of theirs is an immense publication that lists every trade publication in the United States and Canada. You understand that the writers' magazines list only, usually, those who are apparently interested in free lance writers and photographers.

With the latter information, you see, I can be even more up-to-the-second on the latest requirements by writing to a greater variety of publications.

All right, so you've got your desk cov-



"What a coincidence! I have my film developed at the same drugstore."

ered with magazines and books that list trade paper markets for photos and text. What now, little man, or woman? Well, have you a particular yen, or itch, or interest that you think you'd like to develop photographically, more so than any other? Maybe you're interested in glassware, for instance. There are a number of ceramic publications that are crying for free lance photos, which might be right up your alley.

And maybe you think you could take a liking to material about beauty shops, girls? O.K., look up the beauty trade publications. Then there are air conditioning, brewing, boating, dairy, and radio

Trade papers like to show equipment in use, such as this illustration of a riveting machine in a new radio factory.

retailing journals—I'm telling you, the field is so wide you can't possibly miss if you just take a little time at this thing. Here's the way I did it:

After getting hold of all the market listings possible, I glanced around the community and noted various factories and kinds of businesses that looked as though they were suitable for photographic and writing material. In other words, of interest to their respective trades. This isn't difficult to do, because, as we have said, in theory every going concern is of some interest to a trade of some kind.

I then wrote penny post cards or short letters to different trade papers in the various fields that I thought I could cash in on most quickly and efficiently—with the least amount of work. I told editors I was free lancing to trade publications—would they kindly bring me up to date on their needs, requirements, and rates for photos and words? Also, mightn't I have a specimen copy of their respective trade papers to study for slant?

You understand that I was really going in for this business. But even if this is just going to be a lark for you, to get some spending money, let's say, remember that the more shots you scatter, the better chances you have of landing somewhere with saleable material. If you're

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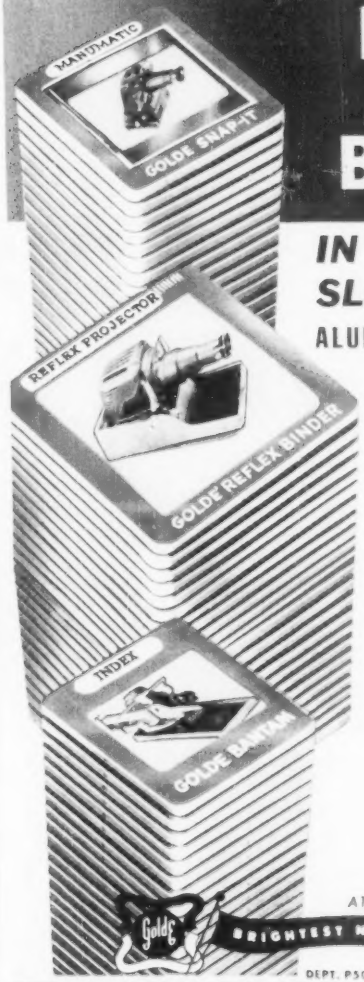

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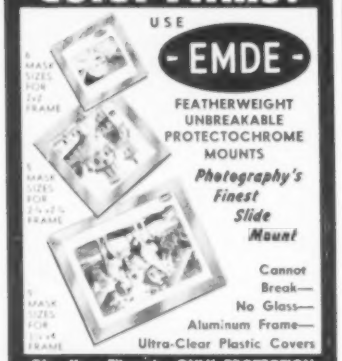

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a pretty fair amateur photographer you are even better off than I was at the beginning, because I knew that photos would sell but couldn't take them as yet nor did I have a camera.

When I aroused interest in editors with my post cards, I followed up with pictures—hiring a photographer, or asking business owners to help me out with photos they would have taken—and text pertaining to the subject at hand. But I began to lament the fact that the nice checks that began to come my way had to be split up with the photographer, usually. I got to reading advertisements about cameras, and talking to friends about buying a camera.

It evolved that one day I found myself talking to a mother who was selling a Kodak Medalist for her son, just married, who needed the cash. (I can understand that!) I brought a photographer friend along to look over the camera. He gave me the nod, finally, and I bought. I've taken hundreds of pictures with the Medalist, both good and bad, but I think I'm improving, and the camera has paid for itself and keeps on paying.

With your camera decided upon, however, and your subject picked out, you now revert to your art of taking pictures with a few new rules we can draw up right here: (1) Trade paper editors want nothing "arty." No frills. Their readers are usually in a hurry, very business-like. (2) Make your pictures get right to the point. In your composition try to pack every square foot with equipment and personalities of interest to the particular trade you are shooting for. (3) If you are including trade names—such as "Carnation Milk" in big letters on a carton in the picture foreground—better check as to magazine's requirements along this line. Some do, some don't, like trade names. (4) Remember that trade paper photographs must be reasonably contrasty, black and white, because many of these magazines print on paper, and with photo reproductions, that demand clear-cut details or lines. (5) Don't try to do too much. A close-up, even with only a pair of hands to lend human interest, is better for a trade paper than a long shot with dim figures and details.

By now you probably know without my emphasizing it that you must have a tie-in, something that hooks the reader, a "news lead," as it is sometimes called. What is *different* about your subject, that is, that would make the trade raise its eyebrows? I'll give you a pretty good example of this:

Recently our city decided to raze its standpipe, an open-top steel reservoir about 125 feet high, holding thousands of gallons of water. Best bid for the job guaranteed removal of the standpipe, and paid the city money besides! The idea that made the operation profitable was demolition of the pipe to scrap steel with a minimum of labor and time. It consisted of floating rowboats in the water, which added up to about 300 feet above nearby Lake Erie, and cutting the pipe apart with acetylene torches.

Here was a natural for several trade papers, I thought, so I hung my Medalist around my neck and climbed the pipe to shoot about eight pictures of the work up there. Those pictures were peddled to *Waterworks Engineering, American City, Construction News* and several local people interested in the job. *Life* almost took them, incidentally, but ruled the conception of water up there was not strong enough in my shots.

Some of those pictures are still "out," or being reviewed by a trade paper relative to possible purchase. This situation,

The Eagle Store in Buffalo, New York, has three Smiths in its organization, and the makings of a good house organ shot or general publicity picture. The Smiths are, from left, James, Gerald, Charles.

you see, was interesting to the waterworks engineers because it concerned salvage of old waterworks equipment; it interested *American City* readers because it showed how the city saved money; *Construction News* always is interested in ways of salvaging, besides methods of building.

Now about captions, or the data you submit with your pictures to tab them, identify them, make them valuable to an editor. Don't worry about the writing end of this game, if you can turn out good pictures. You've got it half licked already. It is generally recognized in the free lance writing business, that even a moron could gather the facts required for most trade paper stories. (What am I saying!!!)

It's as simple as this: Who? What? When? Why? Where? The five "W's" I think we used to call them in school. They are the stock in trade of any reportorial job. How far you go in answering any one of those "W's" determines how much writing you do. You may find it expedient to develop this end of trade paper work, just as I did. You may wind up with 50 words for one photograph, or you may send along 1500 words with four or five photographs.

You will find much greater receptivity to your photographs and captions if you type up your information, double spaced, on good white typing paper, with wide margins, so the editor can work his blue pencil around your sentences. Begin about half way down on your first sheet, to allow writing the title, etc., in, and be sure to number every sheet of paper used with a few words that identify the sheet with your first page. For instance, if your title is "Sell Pictures To Trade Papers," you might add "—sell pictures" after your numbers on all pages except the first.

It is common practice, too, to put your name and address in the upper left cor-

ner of the first page, and the approximate number of words, and number of photos, in the right corner. You might add, in the right corner, "Terms to arrange," or "Usual rates," or something similar, which gives a pretty good indication that you aren't giving the stuff away!

Further, each photo, which ordinarily should be an 8x10 glossy, should have a terse caption, or identification, pasted along the bottom, with the typed portion showing below the print, or something similar just pasted lightly to the back of the photograph. And don't forget your name and address on this caption strip of paper, too, especially if it is your first submission to the magazine and you don't know for sure how careful they are with your work.

Yes, you will find editors that mislay and mistreat your stuff, but they are infrequent, and of course you are foolish to give them a second chance. I'm thinking of getting a rubber stamp to put my name and address on the back of all photographs, and probably should have done this long ago. Photographs must always be mailed flat, with cardboard to protect them from bending, and your manila envelope carrying the stuff should be marked to this effect: "Photos—do not bend."

Don't forget to enclose return postage, unless you have worked up a correspondence relative to the material and the editor asked to see it. Of course you don't want the pictures back; you want to sell them, but you also want them back promptly for resubmission elsewhere if they aren't bought. Also, sell only their use once in one magazine, and keep other rights for possible future use.

Generally speaking, you needn't worry about an editor trying to pull something. Some even return your prints, after having plates made for printing in the magazine. It is common practice among free lance trade paper photographers and

"Do you want a photo you'll cherish forever—a picture of your child at play?"

writers to submit similar photos, with the same information, rewritten, to more than one magazine as long as it doesn't compete with the magazine first purchasing the material.

Editors usually report on pictures in from two to four weeks, sooner if the material is timely. Checks are mailed on acceptance or publication, according to the magazine's setup; personally, I find acceptance checks much nicer, and work harder for magazines that pay this way. There remains possibly one thing I haven't touched: your working hours.

Of course you probably hold down a regular job now, and work a day-shift. In that case, you have lunch hours in which to snatch an interview and a few photos; or, you have to make evening, Saturday or Sunday arrangements. Many plant or business owners or managers will be flattered by your attentions relative to a trade magazine, and will go out of their way to arrange activity for pictures, or even "take" equipment being used for your snapping.

You've got to feel your way into this, but it's fun. You may be bitten so hard that your picture work will take up more and more of your spare time, until you cast off at it full-time, the way I did. Give yourself a good chance to see what it's like by becoming familiar with a few score trade papers. Incidentally, I'm looking for a couple of partners because the field isn't crowded at all and there is plenty to do. What do you say?—

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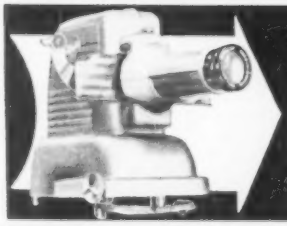

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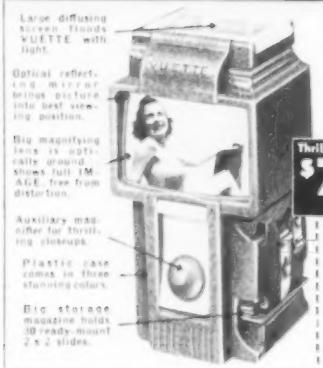

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Why Change the Subject?

(Continued from page 55)

who never failed me despite obstacles such as distance, professional obligations, and even war. On the other hand, I firmly believe that initiative, planning, and some occasional personal inconvenience (plus a bit of compromise thrown in by both parties), can be relied upon to contribute their full share.

Assuming that you have a strong interest in portraiture (which implies a liking for people as individuals) and that you are reasonably endowed with artistic sensibilities, what more powerful and natural incentive could you need than an attractive, ever-changing child? There are doubtless several such potential young subjects within your own circle of acquaintances and probably at least one in your immediate neighborhood—a boy or girl at least seven or eight years old. (You will want the person you pick for serious portraits to be able to stay reasonably still, and few children younger than seven can do this.) From my own experience in photographing many youngsters, including two of my own, I have concluded that it is much better to seek child subjects outside one's family. You will find that their parents, if unrelated to you, usually will prove more co-operative and more appreciative in connection with your project. (Relatives are less likely to take us and our schemes seriously enough.) Such children, too, not knowing you as intimately as your own do, will be much more apt to respond in a helpful way to your wishes.

Of course, there is no way of determining whether any particular child will be a natural, photogenic, and happy choice until you have tried at least one and often several "sittings" of him or her. If both your young subject and you enjoy the undertaking, and your results are reasonably satisfying from the start, then there is every prospect that future sessions will produce equal or greater satisfaction. Make sure not to ask your subject to pose too long at a time nor too frequently, and you usually will find him willing and eager to co-operate—especially if you can devise bits of "business" which interest him, such as dressing in a costume, or holding a pet. Each time you re-take the same child, he will feel more at ease before your camera, with which he is by now familiar, and your portraits of him will almost surely show gradual improvement. You should soon be able to decide, by the amount of pleasure you have derived and the quality of your photographic results, whether you care to continue working with any specific youngster.

If circumstances and luck combine to allow the continuance of your series of pictures of a child over a long period of time, your subject and you will develop mutual understanding which can lead to rich rewards in both pleasure and portraiture. Being a mere child at first, your model may at times need reminding of your dependence on his help. A bit of

persuasion (possibly in the form of small material rewards for posing) may even sometimes be necessary to induce your specially-chosen youngster to sit once again. Each victory, won in a sporting manner approved by the child, will strengthen the habit of co-operation he is subconsciously forming as your series progresses.

I have alluded to your child subject as "he" merely for convenience. The truth of the matter is that girls usually will prove happier choices, for several reasons. They are by nature much more inclined to be concerned with their appearance and clothes, and they are likely to be photogenic models oftener and with greater variety than average boys during the years of childhood and youth. In other words, a girl will almost invariably be a more co-operative, varied, and beautiful subject at any age you photograph her, and hence I suggest that you look particularly for just the right one, reserving boys for your casual experiments in portraiture. Along this line, I am in complete agreement with the famous French sculptor Maillol, who once said: "Girlhood with its fresh bloom, its flowerlike innocence, its confidence in life, is to me the world's greatest wonder." The unique experience of photographing one girl for so many years has substantiated this thought for me beyond any question.

It may be of interest to readers to know how my long series of this one girl came about. At the age of seven, Anne happened to drop in to play with one of her friends, whom I was photographing in her home. I was so impressed by the extreme blondness of Anne's hair and by her beautiful eyes that I asked her to pose for a few close-up portraits right there and then. She did, and the results convinced me that I had found a really worth-while model. I made two more sittings of her—one indoors and the other outside—within the next six months, and then was unable to see her again for two years. From that time on (as soon as we were both living in the same city again), I arranged to photograph her as often as I could think up excuses; it was soon clear to me that she was enjoying these sessions as much as I. We developed a definite relationship of mutual admiration, which led to highly successful results on almost every occasion.

This shared interest in continuing the collection we were making increased as the years slid by, and made it inevitable that more and more portraits would have to be added despite various difficulties. Even the restrictions imposed during World War II did not prevent us from getting together on the occasion of Anne's engagement announcement and, more important still, at her wedding. I scarcely need add that nothing gave me greater satisfaction than the making of these last sets of portraits of her. They have become a most fitting wind-up for the whole delightful series of the one subject who pleased me for all of fourteen years.

Having had all this fun, I am thoroughly convinced that every serious portraitist should pick himself a child model and keep going back, for years and years. ▶

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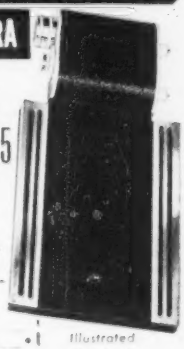

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An Assistant's Life for Me

(Continued from page 39)

tography and darkroom technique. I get to the studio by 8 o'clock although we don't open until 9:30. Fontaine has turned several fashion accounts over to me and I work on them before business hours and all day Saturday. I also do experimental photography at these times.

On a typical morning recently, I spent an hour and a half on some high-key solarization prints that I had shot the previous Saturday. At 9:15 I started clearing away my negatives and paper and cleaning out the wash tanks. At 9:30 I set the coffee pot to boiling. Fontaine doesn't drink coffee but he likes the odor. The rest of us drink while he nibbles cookies. While we drink and dunk, we talk over the orders of the day. On this day there were three orders, two in color, one in black-and-white.

I checked the film holders first to see that everything was ready for every possible type of picture. Films ranging from 4x5 to 8x10, panchromatic and orthochromatic, Ektachrome and Kodachrome, were loaded in holders. The Rolleiflex, Speed Graphic, and view cameras were all checked. Our first job was a hosiery illustration. It was up to me to see that the bridal gown and accessories were in the dressing room. After I'd verified this, I put clean white paper on the floor to protect the gown. Then I moved the lights into a basic position—from which Fontaine directs changes while the shot is going on.

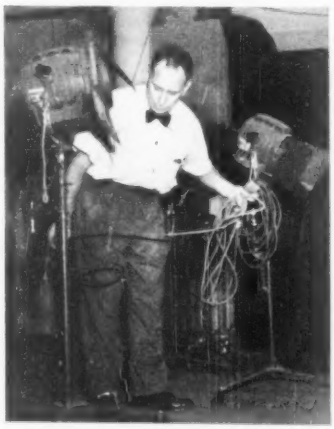
When the model was dressed, I looked her over to see that the outlines of her lipstick were clean, her hair was combed neatly, and the gown pinned smoothly. If our stylist, Ruth, is present, I don't attend to these details, but often she is out shopping for future pictures. When Fontaine is satisfied with the setup, I take a meter reading, check my bellows extension and give him an opening for the lens. Then I move to the camera with several holders containing various types of film. If Fontaine says, "Kodachrome," I hand him Kodachrome holders until he decides to switch to Ektachrome or black-and-white.

During the shooting, he stands toward the front of the camera and directs the model. I check through the groundglass. If I see something wrong, I whisper, "She has a wrinkle in her dress," or "her hair needs fixing." Alan stops shooting while I adjust the bad spots. When the shot is finished, I rip down the set and start preparing for the next picture.

This was a black-and-white photomontage of a girl and a perfume bottle. I put up a black background, arranged the lights and saw that the model was ready, that her earrings were on and her makeup was perfect. After the lights were rearranged and the meter reading taken, Fontaine didn't need me in the studio. I took the color film from the previous set into the darkroom. There I developed several tests of the Ektachrome and loaded the Kodachrome to ship to Rochester.

By the time the montage had been made, about an hour and a half later, the color test was ready for Fontaine's inspection. He told me that he wanted it warmer and gave me special instructions on processing. I developed the rest of the films accordingly. At about 12:30 we were ready for lunch. On an average day, we spend about 15 minutes on lunch—a sandwich in the studio. But once a week Fontaine and I go to "The Sea Den," on East 49th Street for clam chowder and sea squab. We talk about art, music, or politics until dessert. Then we talk about the shot that is coming up next.

On this typical day, we were to shoot a sheet picture for a textile company. I checked to find out if the antique bed I had found had been delivered. Then I studied the layout to see how the client



Spotlight cables are inspected as Jalkin dismantles a studio light set-up.

wanted his sheets put on the bed. I made the bed just the way I did in the Army for inspection. Then the same routine—check model, arrange lights, meter reading, tear up the set. Then, on to another project.

While Fontaine groaned, I brought out a canvas tank, a large sheet of plate glass, and lights covered with blue filters. After I turned the lights on, from behind the glass, I took off my shoes and socks, stood in the tank and threw pails of water against the glass. Fontaine shot each splash in color. We had been working on this job between other assignments for several days. "Photograph a splash of water in color!" Those were the exact words a client used to ruin our sleep and flood our studio. We spent sleepless nights figuring out ways to shoot a colorful splash, and I spent energetic days mopping up the water. Even Fontaine sympathized with me until I said, "It's not bad. The mopping keeps my waistline down and the splashing keeps my feet clean."

Finally we got a series of splashes that satisfied Fontaine, and he sent them to the client. Weeks passed and we heard nothing. We got so we could smile, instead of stuttering, at the tank and plate glass as we passed. Then came a note

saying that the client had selected one picture, but he wanted the splash a little more feminine! Fontaine sent me to the library to find out what a feminine splash looked like. The erudite New York Public Library, main branch, had never heard of a feminine splash.

Once again I became the barefoot boy, splashing water against a pane of glass. We thought of tying a pink ribbon on the pail to put the water in the right mood, but we settled for girl singers on the phonograph instead. We made more shots, little different from the others, and sent them off. This time one Kodachrome had a feminine splash!

When the last shot of the day is finished, we usually have a 15-second conference while we put on our coats. But until I know that everything is prepared for the next day's shooting, I don't like to leave. Fontaine lets me decide whether to develop and print the next day or finish up the same night. I also delegate the retouching, buy the darkroom supplies, and supervise the darkroom work in my spare time. If there's a critical printing job that Fontaine thinks I can do better than the darkroom man, then the darkroom man assists in the studio and I make the print.

Two evenings a week I leave early to attend classes at the Museum of Modern Art. I'm studying basic line and design. Fontaine started me studying art because I kept marveling at his paintings. One day he handed me a brush, a canvas, and some paints and told me to get to work. He kept asking me every day what I was painting. Finally I broke down and enrolled at the Museum. Now I'm assistant to the instructor there, too.

Assisting the instructor at the Museum has affected only my visual taste. Helping Fontaine has even changed my taste in food. The Society of Photographic Illustrators gave its members an assignment—each man to photograph *spaghetti*. Some made still-life studies of the raw pastina, others chose to portray it after it had been cooked. Fontaine made me eat it! To my loss, spaghetti meant food, a favorite food of mine. So I held up forkful after forkful of the long slippery stuff, then swallowed it. When the picture was through, I was through—with spaghetti for life.

But I'm still grateful to Fontaine for prodding me into organizing a club of photographers' assistants—Lens Expression No. 12. We meet and exhibit our work regularly—or lose our membership. Our bosses give lectures for us and take a real interest in our progress.

I have found that working with a creative person like Alan Fontaine can be both stimulating and frustrating. To watch him solve a creative problem whets your imagination. To recognize that a thorough training in art is essential to bridge the gap between a mental concept and visual reality is frustrating—unless you learn something about art yourself. With Fontaine, the Museum of Modern Art, and Lens Expression No. 12 nestling me, my photographs just had to improve.

John Rawlings arranged a contest for Lens Expression No. 12 recently, and he appointed Alexey Brodovitch of *Harper's*

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Bazaar and Alexander Liberman of *Vogue* as judges. My pictures won first and second prizes.

Let's sum up in this manner. If you are not averse to hard work and to a variety of interesting tasks, you can make the grade as a photographer's assistant . . . but you'll have to be able and willing to do everything from the menial to the glamorous. You'll find yourself scouting for seldom-heard-of props, clowning to get an upstage three-year-old to smile in front of the camera, loading film holders, hammering and sawing as you help to build sets, pushing floods and spots

Assistant Max Jalkin's chores include hauling camera gear for location shots.

about as you light the sets, taking meter readings, helping to choose models, developing film, making projections, ordering darkroom supplies, hauling equipment to location, helping to supervise the retouching, modeling when necessary, experimenting with photography in spare time in order to keep abreast of new techniques and to broaden your abilities . . . and even to straining your imagination and ingenuity such as we did in our efforts to capture a splash of water that seemed to be feminine. But all in all, I assure you that it's fascinating fun. If I were wrapping it up in a few words, I'd paraphrase the Disney song to read "Hi Diddle De Dee, an assistant's life for me."

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THESE Salons are comprised of eye-catching, prize winning prints from the POPULAR PHOTOGRAPHY contests. They represent some of the finest examples of contemporary photography with subject matter ranging from the dramatic and human interest to serene landscapes. So great has been the public's acceptance of these exhibits that attendance has been estimated at over one and one-half million during 1950 alone. Salons are available to clubs, schools, stores and other organizations open to the general public. At times the demand for these Salons exceeds our supply but we will be glad to provide you with information and place you on our waiting list. However, we do have a few openings which will allow us to schedule some areas almost immediately. Please write: Traveling Salon Dept., POPULAR PHOTOGRAPHY, 185 N. Wabash Ave., Chicago 1, Ill.

November 4-18

CALIFORNIA, San Bernardino—(The Lens and Shutter Club of San Bernardino); Fourth Salon.
IDAHO, Lewiston—Wasem Photo Shop (Lewis-Clark Camera Club); Fourth Salon.
INDIANA, Kendallville—Kendallville Public Library (Kendallville Camera Club); Third Salon.
IOWA, Dubuque—Dubuque Public Library (Dubuque Camera Club); First Salon.
NEW JERSEY, Perth Amboy—(Perth Amboy Camera Club); First Salon.
OHIO, Dayton—The Standard Register Company (Standard Register Camera Club); Fourth Salon.
PENNSYLVANIA, Philadelphia—Pennsylvania State College of Optometry Recreation Hall ("Pick Club"); Fifth Salon.
TEXAS, Pampa—(Pampa Camera Club); Second Salon.
WEST VIRGINIA, Charleston—Charleston Hobbies, Inc., 110-A McFarland Street; First Salon.

December 2-16

ARIZONA, Phoenix — Heard Museum (Phoenix Camera Club); Second Salon.
ILLINOIS, Morton—(Mennonite Camera Club); Third Salon.
IOWA, Indian Center—Adult School, Visual Art Department (Indian Center Schools); Fourth Salon.
NEBRASKA, Chadron—Residence Hall (Nebraska State Teachers College); First Salon.
MAINE, Portland—Portland Society of Art Gallery (Portland Camera Club); Second Salon.
MONTANA, Bozeman—Art Department, Montana State College (The Camera Club of Bozeman); Fourth Salon.
OHIO, Cleveland—Boulevard Camera Shoppe; Third Salon.
VIRGINIA, Norfolk—Norfolk Museum of Arts and Sciences (Norfolk Photographic Club); First Salon.

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TRADE NOTES AND NEWS

THE ACCURATOR, a device which compensates for parallax at distances down to two feet, is the primary feature of the new Argus 8-mm. magazine loading movie camera, announced by the Argus Corp., 285 N. Wolcott Ave., Chicago 18, Ill. The new camera can be bought as a single-lens unit, or with a twin-lens turret. The single-lens

New 8-mm. camera has parallax corrector.

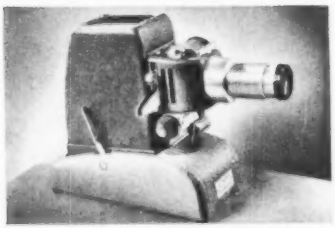
camera, Model 240, has a ½-inch f/2.5 Wollensak Cine Raptar lens, and six speeds, from 12 to 64 frames per second. The clutch which will not move ten feet of film per second, and a small visual indicator within the view-finder keeps track of scene length. The indicator registers every three inches of film. A finger-tip slide permits accurate framing of pictures for focal lengths of ½, 1, and 1½ inches. Model 240 is priced at $149.50. Model 350, which has the same equipment as the 240, but with a turret which will also accommodate either a telephoto or wide-angle lens, sells for $169.50. Model 240 can be converted to the 350 at the factory for $26.50. Two equipment cases are available. The De Luxe, which will hold all the lens equipment and accessories, plus extra magazines, is priced at $18.75. The Studio, accommodating the camera, a film magazine, and an accessory lens, is priced at $9.75. Both cases are made of top grain cowhide. For further details write the manufacturer.

A GIFT OUTFIT, known as the Kodak Duaflex Flash Outfit, is introduced by Eastman Kodak Co., Rochester 4, N. Y. It features the Kodak Duaflex II, a reflex-type twin-lens camera, with Kodalite Flashholder, two batteries, two rolls of blue flashstrip and eight flashlamps. An instruction booklet is also included. The outfit sells for $29.50.

AN INTERVAL TIMER for automatically making printing exposures of from one to fifty seconds is announced by the FR Corp., 301 Fifth Ave., New York 36, N. Y. The FR Automatic Exposure Timer plugs into any receptacle, and controls any enlarger or contact printer. It automatically shuts off the light when the desired interval has elapsed. A provision has been included for constant light when focusing or composing. In addition, a pre-setting ring makes it possible to preset the timer for any interval, and accurate exposures are made repeatedly by merely touching a button. The timer is made of gray plastic, and has a black dial with white numerals, and a large red setting stud. It is priced at $8.95.

AN ADAPTER RING for the Leica Summaflex 50-mm. f/1.5 lens is now available from Entero Industries, Inc., 819 Kosciusko St., Brooklyn 21, N. Y. On the screw-in type the ring will accept Series VI filters or supplementary lenses, and a Series VI-41 Entero lens hood, which has special cutouts to permit an unobstructed view through the finder of the camera. It is constructed of Duralumin, with a satin finish. The price for the ring is $2.49, and for the lens hood, $3.

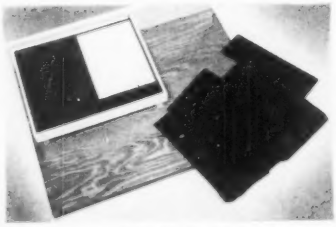
FOR SLIDE FANS who require a versatile projector, the American Optical Co., Instrument Division, Buffalo 15, N. Y., is offering the new Educator 150 Delineascope, designed to project 2" slides and 35-mm. film strips. A 150-watt strip lamp provides illumination, and the lamp is augmented by an aspheric condensing system. Three lenses are available, and all are coated. The entire front of the instrument rotates 360 degrees, and stops anywhere. The projector is avail-



Versatile projector takes filmstrips and slides.

able with or without a lift-off carrying case. The price of the projector with various accessories, and for more complete information, write the manufacturer.

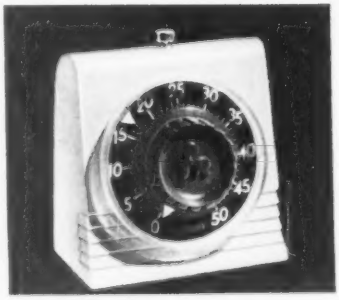
A PRINTING FRAME which facilitates making seven different sizes of prints on 8x10 printing paper, the Easmatic Production Easel, is now being marketed by the



Printing easel has masks for various print sizes.

R. M. D. Manufacturing Co., P. O. Box 156, Takoma, Wash., The frame is of standard 8x10 size, and comes equipped with a set of masks which allows prints to be made in 5x7, 4x6, 4x5, 3½x5, 3½x4½, and 2½x3½ sizes. In the smallest size, eight projected prints can be made on one sheet of 8x10 paper. The price for the complete unit is $26.25 f.o.b. T. Not included, for additional details, write the manufacturer.

FITTED KIT CASES for Zomos cameras and a complete line of accessories are offered by Perfecta Camera Stores, 128 E. 14th St., New York 12, N. Y. Custom made in the Western Zone of Germany, the cases are made of durable leather, and are lined in fine-grain suede. Strategically placed spring covers hold a complete series of filters, lenses, exposure meter and other



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Accordion fold in case permits easy access

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NO ADAPTERS OR ATTACHMENTS NEEDED! DEPENDABLE! SYNCHRONIZATION GUARANTEED!

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The PRACO FLASHMAKER comes in three models:

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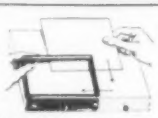

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FLASH EXPOSURE METER Only $4.95

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A viewer for 16mm transparencies, and a frame for enlarged prints, are also included. Designed as a gift package, the outfit sells for $19.95, including F. E. T. Descriptive literature is available from the manufacturer.

FOR FLASH PHOTOGRAPHY, the Brownie Hawkeye Camera, manufactured by Eastman Kodak Co., Rochester 4, N. Y., is now equipped with a shutter which permits its use with any of the four types of popular "bulbet" flashgunes in the Kodak Flashobber. The camera uses 620 film, and

Brownie camera has flash synchronization.

yields 12 2¼x2¼ negatives. The price of the camera is $6.95. The Flashobber sells for $4.60, complete with plastic 2-way Flashcord. The camera, Flashobber, flashbatteries and eight flashbulbs are available in kit form for $12.50.

A SPEEDLITE unit with a portable battery is released by Rexolite, Inc., 460 W. Lake St., Chicago 6, Ill. The Omniflash features a newly designed lamp and reflector combination which the manufacturer reports produces light output equal to that of a Press 40 lamp when used at a synchronized speed of 1/200 second. The unit may be synchronized to any sidemount or internally synchronized shutter except the Supermatic. The flash-only reflector unit weighs less than a pound and the battery pack, including two wet cells, weighs seven pounds. Price of the Omniflash less batteries is $15.95. A battery charger, and extension cord kit are available as accessories. More information may be obtained by writing the manufacturer.

MOVIE ENTHUSIASTS interested in making recordings for use with home movies will find the Dictaphone Tape Recorder, manufactured by Dictaphone Corp., 221 E. Chestnut St., Chicago 11, Ill., to be a new unit designed for amateur use. The recorder will operate at either 2¼ or 4¾ feet per second, and recording can be done for up to two hours. The portable unit weighs 28 pounds, and measures 14 in. wide. The price, including one foot of recording tape, is $1,000. For additional information, write the manufacturer.

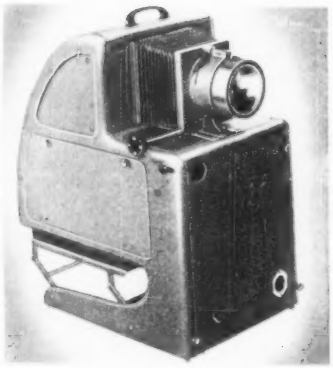
A PORTABLE microfilm reader for 16 and 35mm film is introduced by Grieshaber Products, Inc., 25 Beekman St., New York 7, N. Y. Weighing only 17 pounds, and designed for desktop use, the reader can be used for operation on a "fold-away" screen mounted with the unit, or on any lightweight vertical surface. The reader folds into its own case for transportation or storage. For price and additional information, write the manufacturer.

THREE NEW low-priced camera outfits have been announced by Argus, Inc., Ann Arbor, N. Y. In leatherette cases with carrying straps, the Flash Clipper, the Rollfilm Clipper, and the Tripod Clipper, together with a complete selection of everything needed for picture-taking, are offered at $14.95, $22.50 and $14.95, respectively. Each unit is packaged in a waterproof vinyl case, which is included at the same price, and contains a camera, flashbulbs, batteries, portrait attachment, yellow filter and carrying case. For more complete information, see your dealer, or write the manufacturer.

A DEVELOPING TANK, offering ease of loading, precise initial process, accurate agitation, and a non-slip locking cover, is offered in the new Radiant 1-in-1 adjustable developing tank, formerly made under the Allied trademark. The Radiant Tank is manufactured by Radiant Specialty Corp., 1225 S. Talman Ave., Chicago 8, Ill. It has individual set spacers for slip-in film loading of all standard sizes of film. The cover is held on by a "round edge" grip which prevents it from sticking shut. The tank is made of black Bakelite. For price and additional information, write the manufacturer.

PROCESSING KITS intended to provide amateurs of varying experience with the equipment necessary to develop their pictures have been introduced by Eastman Kodak Co., Rochester 4, N. Y., known as the Kodacraft Printing Kit, Photo Lab Outfit and Advanced Photo Lab. The kits are priced at $1.50, $7.95, and $15.50, respectively. The kits all contain trays, thermometer, graduate, stirring rod, Velox photographic paper, Tri-Chem Pack chemicals and printing frames. The Photo Lab outfit also contains film clips, a roll-film tank, and a printing mask set. In addition to the above, the Advanced Photo Lab, which replaces the Kodak ABC Photo-Lab outfit, includes a Kodacraft Printer, a Brownie Darkroom Lamp Model B, and a booklet of complete instructions. The printer stores the complete materials and equipment for the outfit and provides a carrying case for the entire unit. For more complete information see your dealer or write the manufacturer.

AN OPAQUE PROJECTOR, the Vu-Lite, is offered by the Charles Beseler Co., 60 Badger Ave., Newark 8, N. J. The machine allows projection of subjects ranging in size from a postage stamp to an 8½x11 magazine page, on either horizontal or vertical surfaces. A platen holds the subject matter by suction and a conveyor transports varied or continuous-strip copy with equal ease. The operator is able to superimpose an arrow on any part of the copy. The projector



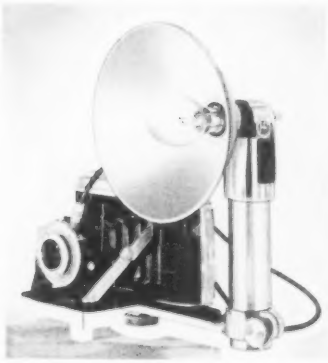
Opaque projector uses conveyor transport.

has a coated achromatic lens, spring-loaded elevating legs and rack-and-pinion focusing. The unit makes it possible also to project comparative subjects simultaneously. The price, and other details, may be obtained by writing the manufacturer.

A HOBBY KIT for junior photographers, manufactured by the Howard Products Co., 1922 S. W. Water Ave., Portland 1, Ore., enables children to take, develop and print their own pictures. Simple instructions take the beginner through all the stages of photomaking. Each kit contains a camera, film, a Tri-Chem Pack, a printing frame, roller, stirring rod, 2 print boxes, paste brush, enough Velox paper for photographs, and darkroom-satisfied kit M-1, retailing at $5.95, contains a Junior Photographer Camera. Kit M-2 includes an Eastman Baby Brownie Special and sells for $7.95. For further information contact the manufacturer.

AN ELEVATING TRIPOD, the 1951, is presented by the Textile Instrument Co., 37 E. 17th St., New York 3, N. Y. The tripod, constructed of tubular aluminum, requires less overall space when operating and weighs less than 11 pounds. The tripod is not complete with a quick control unit but that can be installed quickly and easily by a collapsible section of the tripod needed. The legs are constructed for ground use.

Inexpensive tripod features elevator unit.



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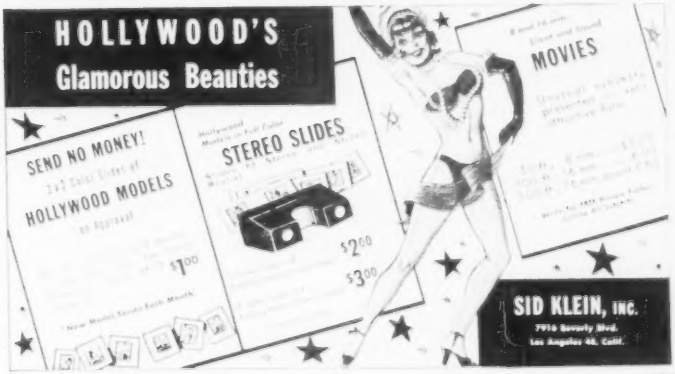

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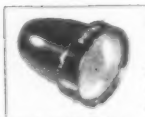

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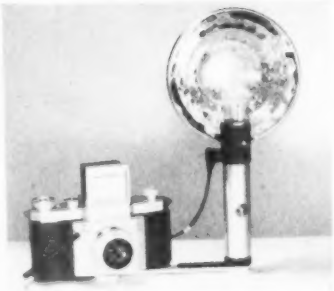
PICTAR, DAVENPORT 3, IOWA

of TG Filter Rings has been made available by Pioneer and Bed, Inc., 1230 S. Grand Ave., Los Angeles 15, Calif. With these new rings, any standard Series V filters can be used. The rings have bayonet mounts, and the standard factory model f/2.8 Rollieflex lens hood can be used with no interference. The price of the rings is $2.75. They can be obtained at dealers or by writing Pioneer and Bed.

A SLIDE VIEWER, the Viette, is announced by Mon Photo Products Co., 139 S. Desplaines St., Chicago 6, Ill. Made of plastic, and holding up to 20 2x2 slides, the handy viewer features a polarizing screen for even light distribution. A magnifying lens makes it possible for more than one person to view the transparencies, and a reflecting mirror brings the picture into the viewing position. There are no moving parts in the viewer, and film strips may be handled with ease. Priced at $2.95, the unit is available in a choice of three colors. For further information, write the manufacturer.

Eye-level viewer holds up to 30 slides.

A DE LUXE MODEL, of former Praco Flash equipment, the Praco Model C Flash Unit, is now being manufactured by Praco Flash Products Co., 2285 Amsterdam Ave., New York 33, N. Y. The flashgun is designed for maximum coverage with Rolleiflex, Praktiflex, Super Ikonta, and other cameras. The Model C has an extension flash outlet, chrome reflector, rubber-covered mounting bracket, and bulb holder. The unit is priced at $19.95, and is available at dealers. For additional information, write the manufacturer.



New Praco Flash Unit on Praktiflex camera.

XIWS NOTES. The former Franklin Photographic Industries, Inc., of Chicago, now been reorganized as Franmarck Industries Corporation, with headquarters at 228 W. 47th St., New York 19, N. Y. The company is still a wholly owned subsidiary of the Franklin Photographic Industries, Inc., of Chicago, Ill.

Fotomat Manufacturing Co., Vista Park, Dy., announces a new vibrating timer mount, a stand that is repetitive, keeps it adjustable and accurate. The Fotomat sells for $7.95, and is available at dealers and retailers.

A variety of packing materials, and Fotomat's products available to the public, have been prime Perma Plastic information and price sheet. This process can be obtained from Perma Plastic Corp., 1110 N. Vitral Ave., Hollywood 27, Calif.

Pacific Photo Products, 2422 W. Olympic Blvd., Los Angeles 5, Calif., is manufacturing a Micro Focusing Knob for Rolleicord and Rolleiflex cameras. The knob slips on and off the standard focusing knob with ease. The price is $2.75, and the knobs are available at camera dealers or from Pacific.

Burleigh Brooks Co., 10 W. 46 St., New York, N. Y., has issued a new price list on the Robot line of cameras and accessories, and the addition of new accessories. The Robot II with Schneider Xenar f/2.8 lens with case is now $165.25. The camera with Schneider Xenon f/1.9 lens and case is now $215. The prices were formerly $181 and $246, respectively. The complete list of changes and additions is available from Burleigh Brooks.

Three bases and bracket cases for most slide projectors are introduced by Spiratone, 19 W. 27 St., New York 1, N. Y. The bases and cases are made of metal, in various sizes to accommodate all popular projectors. For prices and additional information, write Spiratone at the above address.

Radiant Specialty Corp., 1255 S. Talman Ave., Chicago, Ill., has made the Standard and de luxe pan heads available separately. The Standard sells for $6.6[illegible], and the de luxe for $13.20. The units formerly were available with Radiant tripods.

Corr Corp., 5016 Lindblade St., Culver City, Calif., announces that it is now producing Corrpack shell seamless print processing tank units. Combinations are available for all sizes of film and for all desired capacities. For prices and further information, write the manufacturer.

American Optical Co., Instrument Division, Buffalo, N. Y., introduces a new series of Air Spaced camera and lens photomicrographic cameras. These cameras are designed for precision scientific work. Prices and other information may be obtained by writing the manufacturer.

Victor Corrado, 163 N. Wabash Ave., Chicago 1, Ill., introduces Compribe, a cropping and composing aid made of two pieces of right-angled plastic. Complete with for $1.

Delta-Amera Corp., 6-01 Northern Blvd., Long Island City 1, N. Y., announces a new de luxe model of the Citation semi-movie camera. Selling for $85.00, the camera incorporates many of the features of the popular Citation, but offers a more Deluxe finish.

Duro Electric Lamp Co., Inc., 84 E. Bergen St., Newark 8, N. J., is now distributing a free booklet called "Flash Pictures are Fun." The booklet is a course in flash photography contained in pocket form, with a reading time of ten minutes. The books are available from dealers.

Sam Rodie and McCrackin Co., 125-131 Duane St., New York 7, N. Y., announces a multiple outlet box for plugging in eight standard line cord plugs from one outlet. The unit is equipped with a neon pilot light, and a heavy rubber cord terminating in an unbreakable plug. For price and other information, write the manufacturer.

Consumers Electric Products Inc., engineering partners, have published a new schedule of guide numbers for use with Sylvania SuperFlash lamps. The new schedule is available free in handy pocket table form at camera dealers.

Consumers Chemical Co., Metropolitan Life Bldg., Minneapolis 1, Minn., announces the Pro-Gal Set, designed by Infinitare Ability to be fun of photography. The unit uses a single solution which develops and fixes in one operation, and makes black and white pictures in a lighted room. Selling for $1.00, the set contains an aluminum tray, special photo print paper, chemical in powder form, print frame, and six paper cards, no sensitive to a circuit model. For further information write the manufacturer.

National Carbon Division of Union Carbide and Carbon Corp., 30 E. 42nd St., New York 17, N. Y., announces the appearance of Battery Engineering Bulletin No. 5, which discusses various problems in systems involving battery-operated circuits. For copies, write the company at the above address.

Macbeth Corp., Newburgh, N. Y., announces the introduction of a precision photometer, the Macbeth-Vision Color Densitometer. It has applications in industry as well as in photography. For price and further details, write the manufacturer.

Dacie Motion Picture Service, Inc., 1515 Cardinal Ave., Cleveland, Ohio, issues the routine publication of a catalogue listing motion pictures for the theatre. The catalogue of sound-color motion pictures and all-black and white films, is offered to theatre owners and institutions, and are intended to induce producing and films. For price, details and additional information write Dacie at the above address.

Meet the Prize Winners

(Continued from page 136)

Walter E. Owen, whose classic "Model and Motif" was awarded second prize for color, specializes in pictures of dancers and the dance, as well as in figure photography. He was born in Portland, Ore., and received his elementary and high school education in Oregon, later moving to New York City. Owen has been taking pictures for more than 38 years, having developed an interest in photography at a very early age. In New York he was associated for a number of years with the Department of Photography of the Brooklyn Institute of Arts and Sciences. His pictures have been reproduced in a number of photographic publications—both before and after he became a professional in 1943. He has also published some articles on photography. Owen has received wide recognition as a photographer of ballet, and his work now appears regularly in a number of publications devoted to terpsichorean activities, in the *New York Times*, and the *New York Herald Tribune*. His photographs also are used by major ballet companies for newspaper publicity purposes and in numerous books on the dance. He was the winner of another prize in this Contest's color division.

Owen

His unusual picture, "On the Wing," won third prize in color for Hal S. Rumel, a commercial and portrait photographer whose work has appeared in several national magazines, among which are *Flying*, *Holiday*, and *Fortune*, as well as in local and trade publications. They are also published through various Acme Newspictures outlets. One of his assignments for *Holiday* was a color series on Utah, his native State. Rumel was born in Salt Lake City, and still resides there, with his wife and toddler-age daughter. He is a member of the Photographic Print Society of Salt Lake City, and is active in the city's Chamber of Commerce. He has been awarded the Certificate of Merit by the Photographers' Association of America, and Award for Distinctive Merit from the National Retail Dry Goods Association for his photographic work. A professional photographer for some 15 years, Rumel operates his own studio.

Rumel

Sigurd Saxosen's intriguing photograph, "Cellar Sanctuary," captured fourth prize in the color division. Saxosen is employed as a butler in Glaistone, N. J., and in his spare time takes pictures for his own enjoyment, as well as occasionally doing home portraiture. He is deeply interested in photography—both color and black-and-white, in which latter me-

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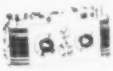

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dium he handles all of his own finishing—and has held membership in the Photographic Society of America. He has done no work for publication, but some of his local shots were selected and used for a calendar by the Garden Clubs of New Jersey. Aalborg, Denmark, was Saxosen's birthplace. As a boy, before coming to this country, he owned a box camera which he put to lucrative use by making pictures for other people. He did all of his own processing at that time, using homemade equipment.

Saxosen

Fifth prize in color was awarded Sam J. Vogan for his 35-mm photograph, "St. Louis in the Rain." Vogan, who is an advanced amateur, has been referred to as one of Canada's outstanding color workers. He is an accountant with a large industrial corporation, was born in Toronto, Canada, where he and his wife now live, and attended the University of Toronto. He is known as a versatile lecturer, using his own color slides to illustrate his talks—many of which are on the subject of horticulture (or, perhaps more properly, floriculture, since he is an amateur gardener of note). Vogan is a leading exhibitor in color, and was one of the winners in the color division of the POPULAR PHOTOGRAPHY 1948 Picture Contest. Offices which he has held in photographic organizations include that of president of the Color Photographic Association of Canada; vice-president of the Toronto Camera Club; chairman of the Canadian International Color Slide Exhibition, and Canadian representative of the National Color Committee of the Photographic Society of America. He also has judged numerous color competitions, and international color exhibitions in this country.

Vogan

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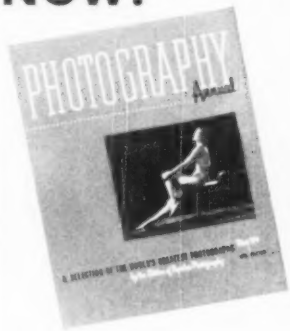

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1. The name and address of the publisher, editor, managing editor and business manager are: Publisher, Ziff-Davis Publishing Company, 185 N. Wabash Ave., Chicago 1, Ill. Editor, Leon Ware, 185 N. Wabash Ave., Chicago 1, Ill. Managing Editor, Leon Ware, 185 N. Wabash Ave., Chicago 1, Ill. Business Manager, [illegible] 185 N. Wabash Ave., Chicago 1, Ill.

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3. The owner: Ziff-Davis Publishing Company, 185 N. Wabash Ave., Chicago 1, Ill. Publisher, B. G. Davis, 185 N. Wabash Ave., Chicago 1, Ill. Editor, Leon Ware, 185 N. Wabash Ave., Chicago 1, Ill. Managing Editor, Leon Ware, 185 N. Wabash Ave., Chicago 1, Ill. Business Manager, [illegible] 185 N. Wabash Ave., Chicago 1, Ill.

4. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities are: None.

5. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner. (Signed) B. G. DAVIS, Business Manager.

Sworn to and subscribed before me this 1st day of October, 1948. (Seal) [illegible] Notary Public. (My commission expires [illegible])

Christmas Cards

(Continued from page 47)

work. Starting with a 17 x 22 sheet of mounting board, he pasted his photographs in place, then sketched in the artwork with India ink. The entire paste-up was copied on an 8½ x 11 negative, from which contact prints were then made on a singleweight matte stock; but Luga tells us that Ad-type or a similar paper would have been preferable, since it would not have cracked at the folds.

The "channel number" disk, on which Luga printed the pictures and numbers to appear on his "set" was photographed separately, of course. Care had to be taken to insure having each channel number indexed properly to the picture appearing on the "screen." Luga designed and made steel dies for punching out the holes required. The dies folded up on him after the third cut, so from there on in he and Mrs. Luga went to work with razor blades, scissors, and a notebook punch (the latter for the channel number hole). After the 8½ x 11 sheet had been folded to 4¼ x 5½", the disk was fastened in place with a No. 00 wire shank fastener. A total of 150 of these cards was sent out.

The apparently simple card showing two choir-boys, submitted by R. Samuel Micciche of Maynard, Mass., involved a bit more technique than meets the eye. First move was a trip to church to photograph the organ pipes and back of the organ console. Then each of the Micciche youngsters was photographed separately. Their mother's white blouse and green scarf served adequately as a chorister's costume. In making the final assembly for copying, Micciche stood the boy cutouts 2 inches in front of the organ pipe background. Then the panel of the organ console was cut out, trimmed, and placed about ½ inch in front of the figures. The setup then was lighted so that the figures would cast shadows on the organ pipes, to simulate third dimension, and photographed on Commercial Ortho sheet film. The cards were printed on 4¼ x 5½ doubleweight stock and gold-toned. The lettering was printed with silver ink on a small hand press, the printed letters being sprinkled with decorator's silver crystals while the ink was still wet. The completed job has an appropriately spiritual quality which is enhanced by its technical excellence.

Press photographer Ron Laidlaw, of London, Ontario, gave his greeting a movie treatment. To start with he shot a movie theater marquee, then blanked out the picture title and substituted his own lettering for the paste-up. Then with family pictures and artwork he added the rest of the material, lettering each "frame" appropriately. The completed job was copied for subsequent printing, the finished cards being 3½ x 9¼ in size (two to an 8 x 10 sheet). Laidlaw feels that his card's odd-size format increased its attention-getting qualities. His own business card, by the way, includes a picture of a photographer placing a press card in the church collection plate, an idea which he borrowed

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In the French fold category a somewhat different touch was evolved by Frank B. Pomeroy, Coulee Dam, Wash. On the front of the folded card he shows his two youngsters in winter clothing, "looking in at Christmas" through a frosty window. The inside left-hand surface bears the lettered greeting. Facing this is a shot of the two kids in sleeping garments, "looking out for Santa" through the same window. Both outdoor and indoor shots were set up in a home studio. An old window frame and sash were salvaged from a junk pile, set into a plywood flat, and hung with window curtains. Frost on the window panes was simulated by brushing on a mixture of Epsom salts and stale beer. "Snow" on the ground consisted of cotton sprinkled with artificial snow crystals, while the snow on the window frame and the bush was made by taking soap flakes and a little water and whipping the mixture up with an egg-beater. According to Pomeroy, the set was built and dressed in just a couple of hours, and the pictures shot in 10 minutes.

The remaining French fold in this group of winners is an unusual "pop-up" design submitted by Philbrook Allen of Levittown, N. Y. Allen went to some pains to incorporate an extra interior fold on one side of the sheet, whereby an engaging likeness of his little boy would pop up at the viewer when the card was opened. This necessitated not only a tricky folding operation but also some careful cut-out work along one side of the sheet so that the youngster's head would stick up above the edge of the paper when the card was opened. The lightweight stock (of the Ad-type variety) took the folding very well, and has not broken even after considerable handling and "popping-up" of the card by the interested contest judges.

Gerald A. Snyder, Terre Haute, Ind., submitted what was considered the best of the real tabletop entries in last year's group. A statuette is highlighted to form the major point of interest. Surrounding it are figurines of lambs and other small animals, while in the background can be seen a subdued silhouette representation of the Wise Men on their camels approaching the buildings of Bethlehem. An interesting feature of this card is that it was printed by projection, with a single exposure for the picture and the greeting below it. A quality of richness was added by means of selenium toning. The finished card, on doubleweight stock, is 4 x 5¼ trim size.

Somewhat akin to tabletop is the candle flame motif employed by William Elkin of New York City. Two negatives were employed here. The candle negative was printed first through a cut-out tree-shaped mask; then the tree portion which had been cut out to form this mask was placed on the enlarging easel to protect the picture while the paper was exposed to the copy negative bearing the lettered greeting. Elkin assures us that in spite of this dual printing arrangement the entire output of 150 cards was handled on a mass-production basis. All the cards were exposed first to one negative and then to the other, developing being done four at a time. With bottom and right-hand edges deckled, the cards were mounted

Double printing was used by William Elkin in making this card. Candle negative was printed through tree-shaped mask. Then tree portion was placed on paper to protect picture while greeting was printed from the lettered negative.

on bright red card stock, the top and left edges being trimmed straight and flush with the red card.

Capitalizing on his small son's pride in being allowed to light candles, Robert A. Boettger of Columbus, O., set up four candles in a pine-needled base and posed the lad behind them in the act of lighting one. (Subsequently it was found that cropping one of the candles made a better print.) A floodlight was placed high and in front of the subject, the background being supplied by a blue blanket. The picture is mounted on the front surface of a folded sheet of buff card stock, the personal greeting being inscribed horizontally with pen and ink on the third surface of each card. Boettger confesses that folding the card stock, mounting the prints, and inscribing the greetings individually made rather a tedious chore of the finishing. We think it was all decidedly worth while.

Norman Rasmussen of Sparta, Wis., came up with one of the more pleasing jobs, photographically speaking. The basis for it was a fine print depicting dark tree trunks in an expanse of fluffy snow. The scene is backlighted so as to bring out the feathery texture of the snow beautifully, the print quality being excellent. There's not much more to this one than "Merry Christmas" and the senders' first names in black lettering on the snow area. The lettering was positioned carefully on an 8 x 10 print, the latter then being copied and reduced for contact printing on deckle-edge greeting card stock. Here's an extremely simple product, the effectiveness of which lies in its fine photographic quality and subdued good taste.

Another clever paste-up is found in the card submitted by Philip R. Morse, of St. Joseph, Mich. Here again we have a well-made photograph and a short greet-

ing, printed together on deckle-edge stock. In this case the greeting is in white against a dark picture area, and it gets the attention very well indeed. Morse got hold of a fanciful painting of Santa coming out of the fireplace, and combined it with a photograph so that the good man appears to be staring in astonishment at the two Morse children, dressed in their nightclothes and fast asleep in a big easy chair. Photographic quality is very good here, and the basic technique well executed.

So there you have an assortment of photographic Christmas greetings, embodying a wide diversity of tastes and techniques and submitted from nine states and Canada. The tricky ones are good, and profited from careful and capable execution, not to mention plenty of hard work. The simpler ones are equally effective, most of them being well within the ability of anybody who can use a camera.

You have plenty of ideas by now, and we've told you just how they were put into actual practice. So hop to it and get your own 1950 cards into production. And give us an opportunity to see what your efforts produce. Meanwhile, Season's Greetings to you!—WHIT HILLYER.

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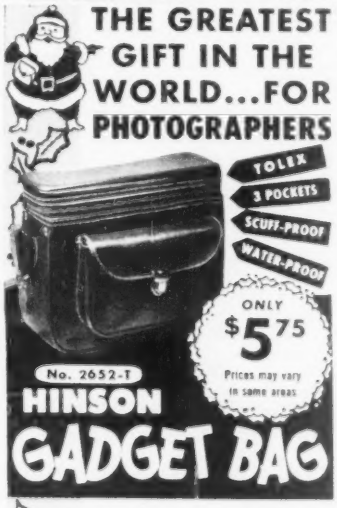

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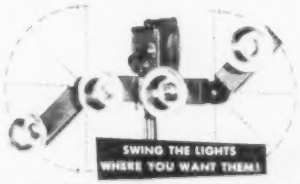

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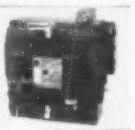

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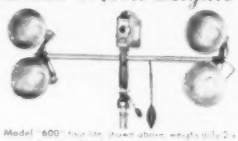

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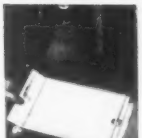

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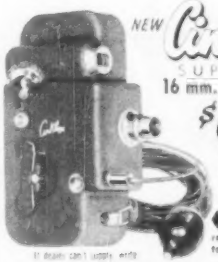

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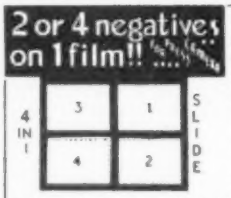

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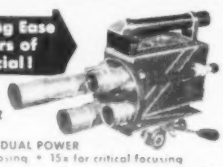

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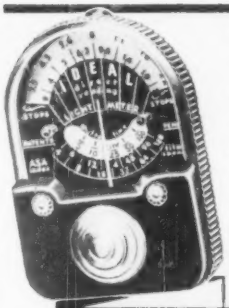

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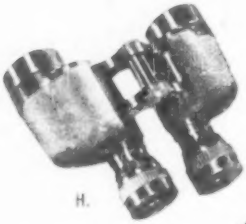

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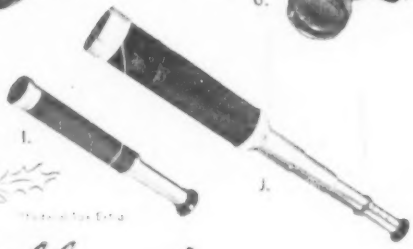

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